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Ben Anderson



All shook up? The jury's still out...

Ferrari is back, Red Bull never went away, and Mercedes is properly on the back foot. F1's latest rules reset has certainly shaken things up – but (for now at least) the big three are still the biggest three, and has the racing really changed all that much?

The Bahrain Grand Prix looked very similar to other recent Bahrain GPs, only with more pitstops because, despite Pirelli promising to produce lower-degradation tyres for 2022, the degradation was still massive. And so, once again, tyre deltas made more difference to who could race who than whether 'dirty air' was a bit cleaner than before.

"It was tough. It wasn't as good as I was expecting, which is a bit frustrating," said Lando Norris – unexpectedly down in the thick of things thanks to McLaren's present struggles. "I was expecting a little bit more."

"It didn't feel massively different from within to be honest," agreed Mercedes' George Russell. "Definitely not worse following, [but] Bahrain's always difficult because of the surface and the tyres don't seem to be a huge improvement on last year and we're still sliding around quite a lot. And that's made it much harder with the 40-50kg increase in car mass, so it's definitely not as enjoyable to drive."

The man Russell replaced at Mercedes, Valtteri Bottas, suggests (and he's not alone) that any improvement in the cars' ability to follow is offset by a reduced slipstream effect. Lower drag means bigger wings, which means DRS is now more

powerful so remains essential to overtaking.

This month's cover star, Fernando Alonso, said following "was definitely easier" but suggested "all the overtaking we saw was because one car had two seconds more pace on newer tyres than others, so I think the tyre is the biggest differentiating factor still, not the following."

Alonso also pointed out the folly of drawing too many firm conclusions from one race – a position also taken by the man who has more riding on this project than most: Ross Brawn.

Brawn talked about continuing to focus on the "raceability" of the cars and needing "two or three teams at the front racing hard, a strong midfield then I think we should be pleased."

I mean, didn't we have that already?

F1 seems satisfied things haven't gotten worse from one year to the next – but that surely must be the bare minimum of expectations met. The ultimate success of this revamp depends on doing much, much better.

• From next month, our cover price will increase to £6.99. We worked hard to keep prices stable amid the challenges of the coronavirus pandemic, but recent increases in fuel, paper, print and distribution costs have made this unsustainable. The price for existing subscribers will remain fixed until expiration, then will increase by £1 per issue. Thank you to all our readers for your continued support in these challenging times.

Contributors



OLEG KARPOV

Oleg has interviewed two Alpine drivers, old hand Fernando Alonso (p30) and up-and-coming reserve Oscar Piastri (p38)



STUART CODLING

From tea trays to size-zero sidepods, Codders analyses how teams have differed in their responses to the 2022 rules (p46)



DAMIEN SMITH

Damien has researched and authored yet another fantastic team history. This time it's Brabham in the crosshairs (p64)



JAMES MANN

After a short break our Now That Was A Car feature is back and James photographed the title-winning Williams FW19 beautifully (p74)

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The new generation

While certain aspects of the Jeddah street circuit have been called into question recently, it's a good place to work and the parc fermé is nicely located right at the bottom of the pitlane.

While F1 is opening up a little bit, the number of photographers permitted in this area will remain limited, making it a much more sedate working environment than in years past. The drivers are also more relaxed because they're not being crowded. I was able to capture this nice little moment between Max and Charles. The friendliness and mutual respect is very clear. You can tell they've been racing against one another since they were very young.

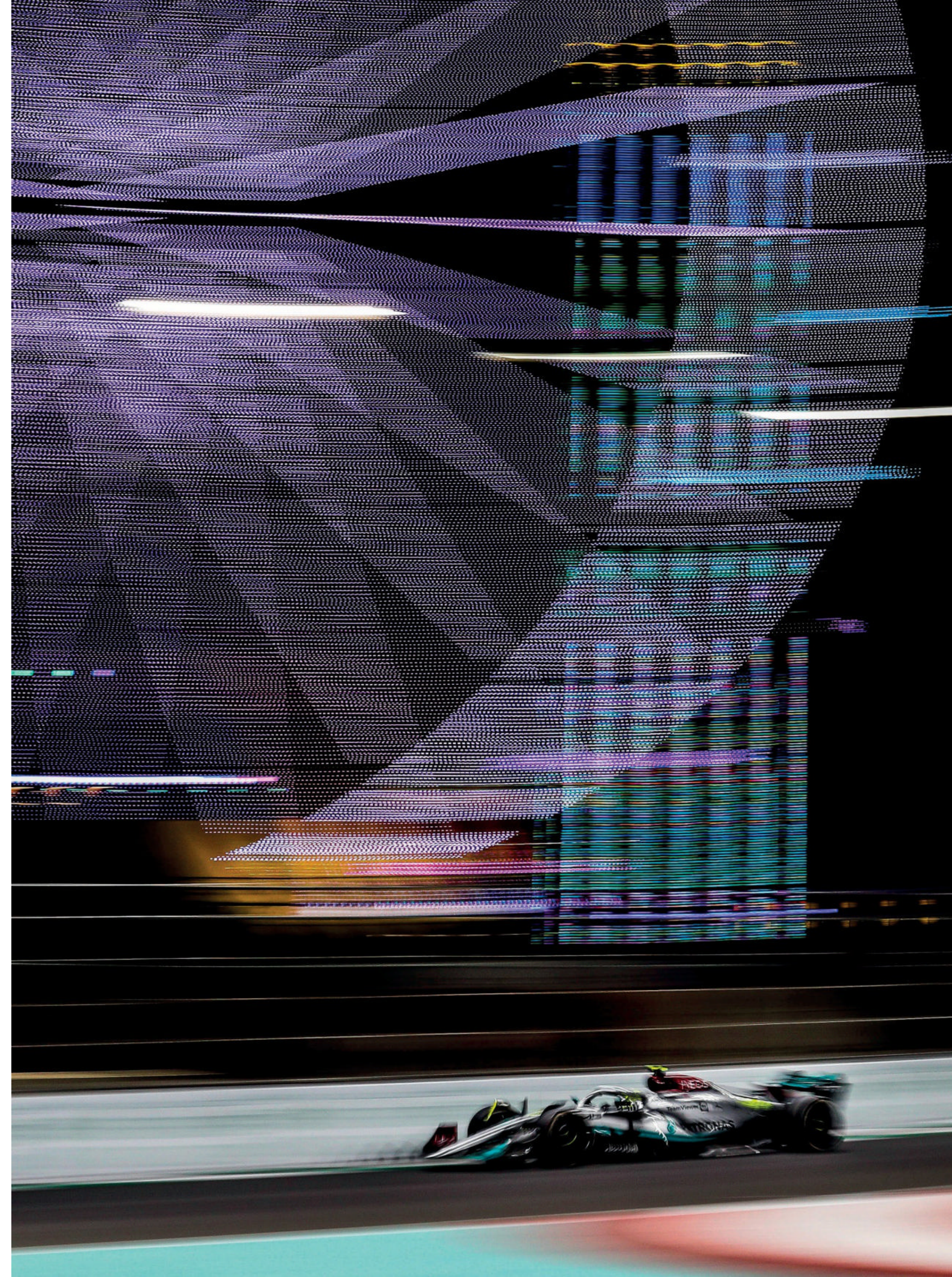


Photographer
Steven Tee

Where Jeddah, Saudi Arabia

When 9:31pm, Sunday
27 March 2022

Details Canon EOS-1DX MkII
24-100mm lens, 1/640th @ F43



Big wheel keeps on turning

“The earth spins on its axis, one man struggles while the other relaxes,” according to Massive Attack’s trip-hop classic *Hymn of the Big Wheel*. That’s a lyric which might resonate with both Mercedes and its rivals as a new season brings a remarkable reversal of the established competitive order at the front. This really does feel like the beginning of a new cycle.

Jeddah’s own big wheel has moved – not just on its axis but in the wider sense of the word. It’s now in a slightly different location which gave new options to use it as a background feature. A panning shot with a slow shutter worked with the wheel’s lights to create a strobing effect.



Photographer

Carl Bingham

Where Jeddah, Saudi Arabia

When 8:55pm, Sunday
27 March 2022

Details Canon EOS-1DX MkII
50mm lens, 1/15th @ F14

No lost horizon at the Shangri-La

During FP3 in Jeddah the race organisers kindly arranged access to a room overlooking the circuit in the brand new Shangri-La hotel, part of the 64-storey Burj Assila, the tallest building in the city. Located at the southern tip of the vast circuit, it certainly gives its customers a commanding view of the sprawling track.

Being on the 56th floor meant I was actually much higher than the TV helicopter as it dashed up and down the coastline, picking up cars along the second half of the lap. I waited until I had the helicopter and a car lined up together in a frame with the sea, and luckily enough that car was Max on a hot lap with sparks flying.



Photographer
Sam Bloxham

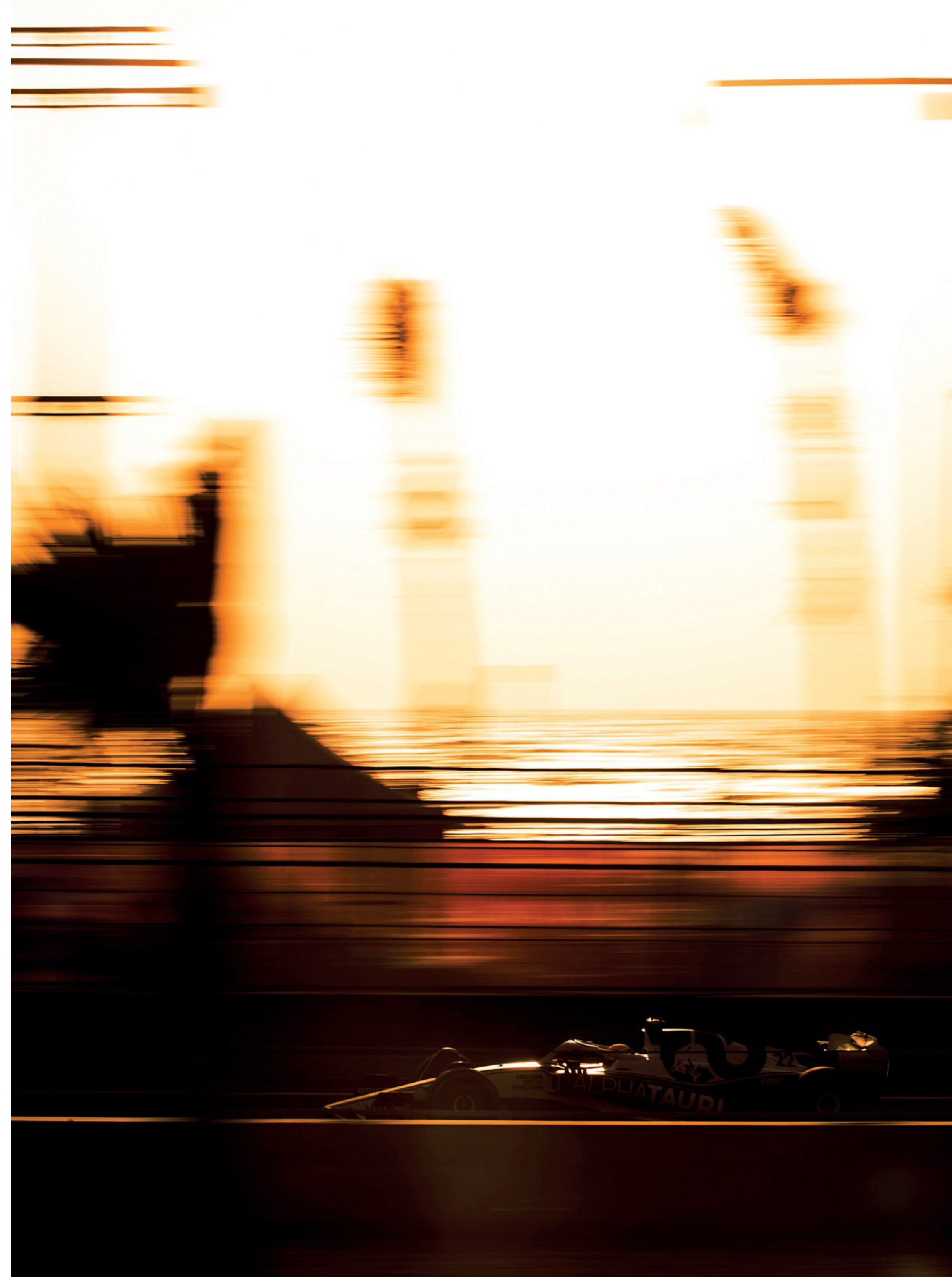
Where Jeddah, Saudi Arabia

When 5:27pm, Saturday
26 March 2022

Details Canon EOS-1DX MkII
200-400mm lens, 1/1600th @ F8







The sun hasn't set on Gasly yet

He might not have found his way back in the door at Red Bull yet (you can read an interview with him, and see his rather exasperated thoughts on the subject, on p58), but Pierre Gasly continues to impress in the AlphaTauri and raced well in Saudi Arabia despite suffering a mysterious pain in the guts.

Although the sunset was later than when we were last here, you could still achieve a pleasing background effect by shooting across the track into the light, with the palm trees providing a graphical contrast. It works well with the AlphaTauri because the white part of the car also provides a useful contrast in the dark area along the bottom of the frame.



Photographer

Zak Mauger

Where Jeddah, Saudi Arabia

When 5:42pm, Saturday
26 March 2022

Details Canon EOS-1DX MkII
70-200mm lens, 1/800th @ F16





Max is on it from day one

Like many street tracks, the Jeddah Corniche Circuit can be frustrating in places simply because of all the fences required for safety. But there are good pictures to be had if you look around carefully.

This is in the second sector, on the return leg after the cambered hairpin at Turn 13. The drivers can't afford to lose momentum through this combination of fast, flowing corners. It's a real test of which cars are working and which drivers have the right combination of finesse and aggression. Here we are in FP1 and Max Verstappen is placing his car exactly where it needs to be – too far over and he'd damage the underfloor.



Photographer
Steven Tee

Where Jeddah, Saudi Arabia

When 5:14pm, Friday
25 March 2022

Details Canon EOS-1DX MkII
400mm lens, 1/1000th @ F6.3

F1'S DOUBLE STANDARD OVER RUSSIA AND SAUDI ARABIA

01

The contract to host the Saudi Arabian Grand Prix is believed to run for 10 years and worth around £500million in total, but events surrounding this year's Jeddah race weekend must inevitably leave Formula 1 questioning whether to keep the race on the calendar.

During the first practice session of the 2022 Saudi GP, an explosion occurred around 10 miles away from the track at an oil facility, with local authorities soon confirming a missile attack was the source. The Yemeni Houthi movement, which has been embroiled in an armed conflict with the Saudi-led coalition in recent years, claimed responsibility for the incident. During the week leading up to the grand prix, it had carried out several similar attacks in Saudi Arabia, including in Jeddah.

While a cloud of black smoke gathered in the air near the track, many in the paddock began to doubt whether the race weekend should continue. The start of Friday's second practice session was delayed by 15 minutes following an emergency meeting between F1 CEO Stefano Domenicali, teams' representatives and drivers, where it was made clear there were no plans to abandon the event.

Later that evening, following another meeting with Domenicali and FIA president Mohammed Ben Sulayem, team principals agreed the race could go ahead – after receiving reassurances about security measures put in place by local authorities.

"It was a good meeting," said Mercedes' Toto Wolff afterwards. "This is probably the safest place you can be in Saudi Arabia at the moment. That is why we are racing."

Persuading the drivers, however, proved more difficult. Their meeting continued for another four hours, with Domenicali, F1's managing director of motorsport Ross Brawn and team principals summoned at various points.

It's unclear how close the drivers were to deciding to boycott the race, but in the end – after a lengthy discussion that lasted until around 2.20am – they notified the championship authorities they would be taking part in the remaining sessions of the weekend.

Later that morning the Grand Prix Drivers' Association issued a statement, which read: "Perhaps it is hard to comprehend if you have never driven an F1 car on this fast and challenging Jeddah track but on seeing the smoke from the incident, it was difficult to remain a fully focused race driver and erase natural human concerns.

"Consequently, we went into long discussions between



PICTURES: ANDY HONE; CARL BINGHAM; SHUTTERSTOCK

ourselves, with our team principals, and with the most senior people who run our sport. A large variety of opinions were shared and debated and, having listened not only to the Formula 1 powers but also to the Saudi government ministers who explained how security measures were being elevated to the maximum, the outcome was a resolution that we would practice and qualify today and race tomorrow."

While individual drivers did not go into more detail regarding the nature of their discussions, many stressed that they are looking forward to further talks with F1 chiefs regarding the Saudi Arabian GP's future.

"I think there will need to be discussions after this race," said Ferrari's Carlos Sainz after qualifying, "because clearly what has happened in the last 24 hours, it's a point of discussion and consideration that we need to take going into the future."

The events in Jeddah further reinforced the opinion of many that Formula 1 should not race in Saudi Arabia, with the deal having been subject to extensive criticism due to the country's



The Yemeni Houthis' missile attack on an oil facility 10 miles from the Jeddah track, during Friday practice, called into question whether the race would go ahead

terrible human rights record. The championship chiefs, though, are determined to keep the race on the calendar.

"It is a matter of understanding the situation," Stefano Domenicali told *Sky Sports*. "We are not blind, but we don't have to forget one thing: that this country, also through F1 and the sport on which we believe, is doing a massive step forward."

"You cannot pretend to change a culture that is more than a millennium [old] in a blink of an eye. The resources they're putting in place to move forward you can see here. Of course, there are tensions inside, there are things that have to be improved. We don't want to be political on that. But I do believe that we are playing a very important role in the modernisation of this country. We are focused, of course, on making sure that these are the centre of our agenda."

PERSUADING THE DRIVERS PROVED MORE DIFFICULT. THEIR MEETING CONTINUED FOR ANOTHER FOUR HOURS



F1 CEO Stefano Domenicali (above) needed to convince the drivers it was safe to race. After a long meeting on Friday, the GPDA confirmed its members would take part



F1's desire to keep coming to Saudi Arabia can be explained by the fact that it has a sponsorship contract with state-run Saudi oil company Aramco. But in light of the events of Jeddah, it seems reasonable to ask whether double standards are at play. Having terminated the contract with the organisers of the

Russian GP due to Russia's invasion of Ukraine, F1 nevertheless decided an explosion caused by a missile attack close to the track is not a sufficient reason to cancel a race.

Domenicali sees things differently. "It is a matter of definition, is a terrorist attack a war?" he explained. "We are talking about sport, we are of course in contact with all the authorities and with all the embassies, with all the right governing bodies. And of course, we will follow that and we will never be in a situation that can jeopardise the safety of our people." ►

THE INEVITABILITY OF MAZEPIN'S HAAS EXIT

02 Formula 1's only American team no longer has a Russian driver. The contracts of Nikita Mazepin and his sponsor Uralkali, owned by his father Dmitry, were terminated by Haas after Russia invaded Ukraine.

With the world shocked by the outbreak of hostilities, its largest multinational companies – including McDonald's, Apple, IKEA, and many automotive brands – announced the closure of branches in Russia and/or ceased supplying goods and services to that market. Formula 1 followed suit, as the contract to host the Russian GP was terminated.

Haas' decision to end its relationship with Uralkali was not only predictable, but probably the only possible outcome. It was not purely an image question – sources indicate the team's other sponsors were willing to end their deals with the outfit had Haas decided to continue its partnership with the Russian potash fertilizer producer.

Haas, however, reacted quickly. Even during the test in Barcelona, which coincided with the start of the war in Ukraine, Uralkali logos were ripped from its car, as well as the team trucks and the walls in its garage – as the team's lawyers began the process of terminating the agreement.

Mazepin could, in theory, have continued to race in F1. While Russian athletes have been denied participation in many international tournaments, the FIA took a more lenient approach. Initially, it was announced that drivers from Russia, as well as from allied Belarus, could continue competing in FIA events, but as neutral athletes. A few days later they were invited to sign under a special 10-point document which would forbid them from

Mazepin and his Uralkali-sponsored Haas ahead of the Barcelona test in February. By the Bahrain test both driver and sponsor were gone

displaying “any Russian/Belarusian national symbols, colours or flags” and expressing “any support (direct or indirect) for the Russian and/or Belarusian activities in respect of Ukraine”.

This provided Mazepin an opportunity to keep his place at Haas – but the team announced his dismissal before he had time to decide whether to agree to the FIA conditions, this indicating that his ability behind the wheel was not incentive enough to keep him without the financial backing of his father's company.

After the Haas move, Mazepin held a press conference in which he accused the team of being uninterested in finding a mutual solution. Confirming he was ready to race under a neutral status, he nevertheless refused to answer a direct question over whether he would've agreed to all of the FIA's conditions. Nikita's father has close ties to the Kremlin and had a one-to-one meeting with Russian President Vladimir Putin in January of this year. Mazepin Jr's agreement to the conditions, which would've meant accepting the FIA's position on the conflict in Ukraine, could have created problems for his father's business inside Russia.

“Since my contract was terminated, it makes no sense for me to discuss what I would or wouldn't sign,” Mazepin noted, “I cannot compete with this piece of paper. I can only compete with a contract. Accordingly, if I do not have a contract, it makes no sense for me to go into the details of the second [FIA deal].”

In any case, both father and son soon ended up on the EU sanctions list, which means that Nikita would not have been able to take part in a number of races even if had Haas retained him. ▶



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MAY 5



THE FALL OF MERCEDES: WHY ISN'T THE W13 KEEPING PACE WITH FERRARI AND RED BULL?

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- > Haas: keeping the faith
- > The history of Brabham: part 2
- > Now That Was A Car: Toleman TG184

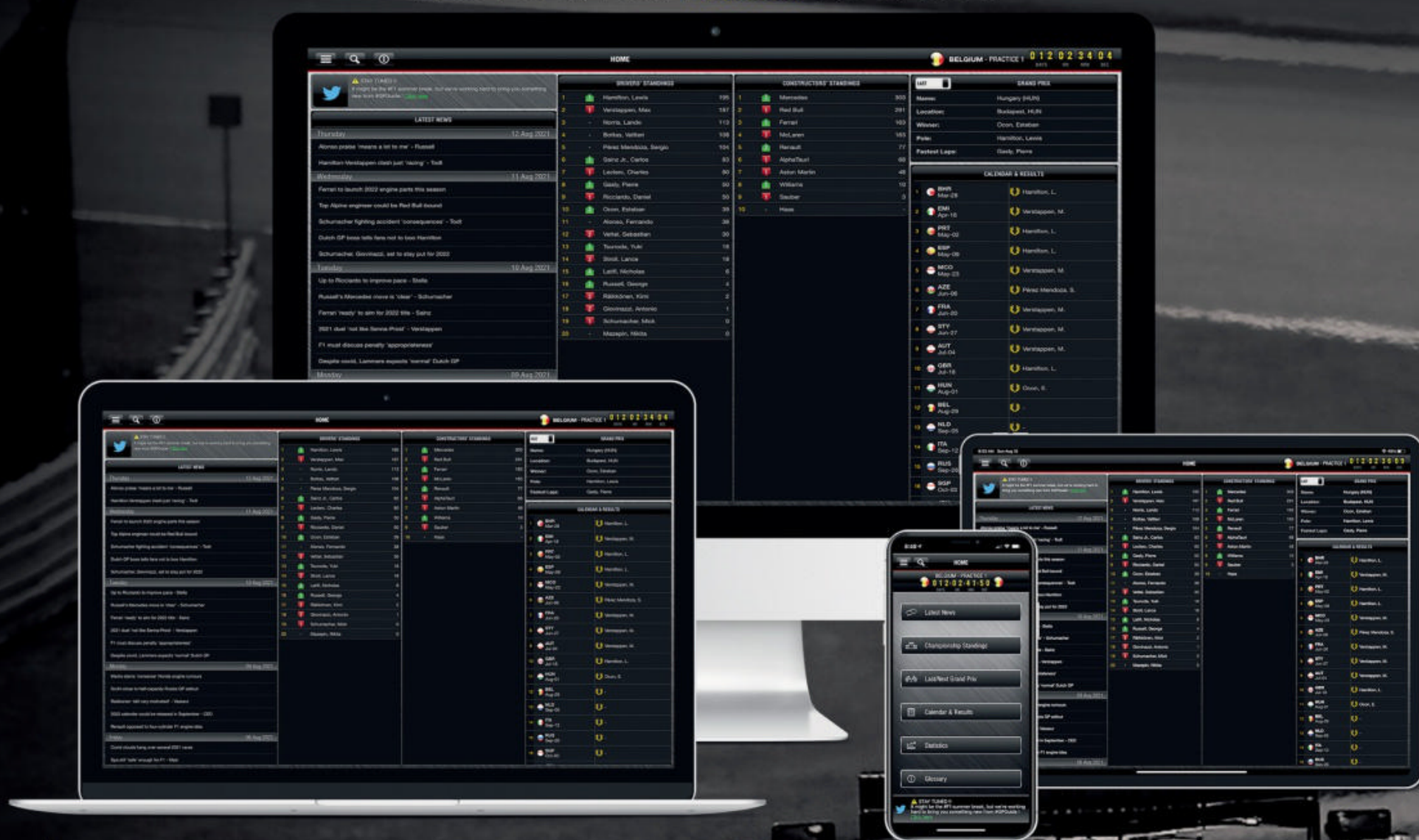
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FIA ADMITS "HUMAN ERROR" IN ABU DHABI

03

Now it's official. During the 2021 Abu Dhabi Grand Prix, which was decisive in determining the winner of last year's world championship, the race director made mistakes that affected the outcome of the title fight between Max Verstappen and Lewis Hamilton.

Such a conclusion can be drawn on the basis of the FIA's report on the results of an investigation into the events that occurred in the last laps of that race. As a result of decisions made by race director Michael Masi, some of which contradicted F1's sporting rules, the race was restarted a lap before the finish, allowing Verstappen to overtake Hamilton and swing the outcome of the title battle in his favour.

The FIA acknowledged that "[the] Race Director called the safety car back into the pitlane without it having completed an additional lap as required by the Formula 1 sporting regulations", and also stated that "human error" led to the fact that not all cars were allowed to un-lap themselves. Thus, the FIA has admitted that the restart was not executed correctly. However, the assumption that Masi's actions were dictated by malice was rejected. He was found to have acted in "good faith" by trying to get the race to finish under green-flag conditions.

A large part of the report was devoted to the issue of communication between the race director and team representatives. Both Red Bull team boss Christian Horner and Mercedes' Toto Wolff entered into discussions with Masi during the critical stages of the race, trying to influence his decisions. The FIA report highlighted that "these communications were neither necessary nor helpful".

The drafters of the report offered several recommendations to improve race management.

Most of these have already been implemented. Masi was removed from his role as race director, with Niels Wittich and Eduardo Freitas called upon to share that duty in 2022. Additionally, the FIA has restricted conversations between teams and race control and made changes to the sporting regulations to eliminate the possibility of certain

articles being open to ambiguous interpretation. The procedure for identifying lapped cars will now be automatic, with help from specially developed software.

In the meantime, the World Motor Sport Council has finally confirmed the results of the race, as well as the 2021 championship, "are valid, final and cannot be changed" – three months after the finish in Abu Dhabi.



**THE WORLD MOTOR
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**The FIA has finally
admitted that there
were errors in restarting
the 2021 Abu Dhabi GP
following the final
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F1 MASTERMIND

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- Q1** Who are the three current drivers that were racing in 2010 when Nico Hülkenberg made his F1 debut?
- Q2** Jim Clark won three GPs four times or more. They were the British GP and which other two?
- Q3** Prior to Kevin Magnussen's fifth in Bahrain, when was the last time a Haas finished in the top six?
- Q4** How many pole positions did James Hunt achieve in his 93 GPs: 11, 14 or 18?
- Q5** Who was the Chinese driver who made five practice session appearances in 2012 and 2013?
- Q6** Three of the nine circuits that held world championship F1 GPs in 1959 never held another points-scoring F1 race. Which three were they?
- Q7** True or false: Bahrain has now held more world championship F1 GPs than Argentina?
- Q8** How many times has Max Verstappen failed to finish the opening race of an F1 season: 3, 4 or 5?
- Q9** Mario Andretti won 12 GPs, 11 of them with Lotus. At which GP did he claim his other world championship victory and with which team?
- Q10** Including 2022, how many times in the last five seasons has Lewis Hamilton not been leading the championship after the first two races?



1 3 (Fernando Alonso, Lewis Hamilton and Sebastian Vettel)
2 Belgian and Dutch GPs 3 2019 Australian GP 4 14 5 Ma
Qinghua 6 Avus, Monsanto and Sebring 7 False (Argentina 20,
Bahrain 18) 8 3 9 1971 South African GP, Ferrari 10 1 (2021)

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PICTURES 

SOMETIMES THE REAL ENEMY IS WITHIN...

When the jet lag from Australia starts to wear off, Formula 1 teams will switch focus to the first sprint race of the year on the classic layout of Imola. After missing out on the dramas of Formula 1 for 14 years, Tuscany's rolling yet precise and unforgiving circuit will provide its third grand prix in 18 months and, as it reminded us last year, it can be the host of discord between well-connected competitors.

Team-mates often attempt to combine forces in the early part of a season, especially when new technical rules shift the sand and working together creates more opportunity for the team to move forward. But Imola regularly turns up on the calendar at a key phase when the initial results are showing who's strong, and drivers realise that beating a team-mate could be the answer to winning the title.

When Sergio Pérez outqualified Max Verstappen at Imola last year we all sat up and took notice. Ultimately, it was the only time in 2021 he managed to outpace his Red Bull colleague in a

genuine qualifying duel, but it was no doubt a wake-up to Max, who pulled off a brilliant getaway in the wet a day later, squeezed Lewis Hamilton out at Turn 1 and held on for the first win of his title-bound season.

It didn't seem to affect the Red Bull alliance; the efforts that Pérez applied to help Verstappen in the final round in Abu Dhabi were memorable, but there have been moments at Imola in the past which have altered relationships.

Perhaps the most infamous occasion came 40 years ago. In 1982 an argument between the organising bodies of F1 led to just 14 cars entering the San Marino GP at Imola. Yet the conflict between Ferrari partners Didier Pironi and Gilles Villeneuve as they earned a one-two finish became the cause of sheer antagonism.

Previously Pironi and Villeneuve had been real friends, racing hard but respecting each other's skills. While the two Renaults of Rene Arnoux and Alain Prost dominated qualifying, poor engine reliability was likely to deny success; Prost's motor let go after six laps while Arnoux enjoyed some glory until lap 45. Villeneuve then inherited the lead with his team-mate behind, and backed off to a less intense level of performance to ensure Ferrari success.

Pironi, however, had other thoughts. He could see this was going to be an unpredictable season – with three different winners in the first four races – and wanted to grab any opportunity for extra points. When he passed Villeneuve, Pironi didn't

back off and Villeneuve had to chase him down and overtake again, convinced that it would now be settled.

It wasn't. Didier shot ahead a few laps later and Gilles had to pass again. They were getting excruciatingly low on fuel, yet Pironi still went for the last-lap slipstream to steal the win; in doing so he destroyed their friendship. Just two weeks later Villeneuve would be killed in a qualifying crash in Belgium, stirred up at the time about never giving in to Pironi.

Seven years later another relationship was shredded at Imola. Alain Prost and Ayrton Senna made an agreement that whoever led into Turn 1 would get to keep that position in the race. Senna emerged ahead at the first start until a huge shunt for Gerhard Berger led to a red flag. At the restart Prost took the initial advantage and felt comfortable that he wouldn't have to defend. But pure-blooded racer Senna was always going to go for it; he outbraked Prost at Tosa and sailed on to victory. Their coalition disassembled and only began to come back together once Prost retired; they were speaking again at Imola on the weekend of Senna's fatal accident in 1994.

That event was such a tragic part of F1 with the loss of Roland Ratzenberger and Ayrton. It seems sad that this year is the first since 1995 that the Williams cars will no longer carry the Senna emblem in memory of such a great driver, yet team principal Jost Capito's explanation that it is time to move on from the past and create a new story under different leadership is understandable.

Last year at Imola no team pairing came to fisticuffs, but we did see two closely linked colleagues fall out. In his third season of being contracted to Williams by Mercedes management, George Russell managed to have a big impact with regular Silver Arrow Valterri Bottas. George was outraged until he saw replays and realised that putting a wheel on wet grass had been his error. Thankfully, over the next few hours Russell calmed down and settled sufficiently for Mercedes boss Toto Wolff to retain the concept of George replacing Bottas at the end of the year. Dramatic moments can have huge consequences even when both drivers are able to climb out unhurt.

So the first sprint event of the year could be determined by internal team battles. Despite being the initial European race of the season, big technical updates are unlikely; the lack of free practice means data gathering will be insufficient. It will be an event to make the best of what is out there already. And in some driver's minds that will simply mean: beat your team-mate at all costs.



A dismayed Villeneuve and winner Pironi (above) in 1982, the race Gilles thought was his (right)



In 1989 Imola was the scene of a falling out between McLaren team-mates Ayrton Senna and Alain Prost (above and right) after they disagreed on who should lead after a restart



Sergio Pérez surprised Max Verstappen by genuinely outqualifying him at Imola in 2021, but it was the only time he did



Come race day at Imola, Verstappen put his poor qualifying performance behind him by passing Pérez and audaciously forcing pole man Lewis Hamilton to yield in Turn 1



UNDER THE HOOD

PAT SYMONDS

PICTURES **motorsport** IMAGES

element of doubt as to the outcome. Plenty said that over-regulation of the bodywork would lead to all cars looking the same, and many conjectured that because lap time performance, in simulation, was approaching parity with the previous generation of cars, the difficulty of overtaking would be similar. Both views failed to understand either the detail of the regulations or the fundamental physics associated with the previous generation of cars when it came to close following.

At Barcelona we saw the first iterations of the fertile minds of the designers and aerodynamicists who, in striving to find better solutions than their competitors, keep those fans with a technical bent constantly entertained.

Certain trends were common. Gone were the high-rake cars of previous years which always looked as if they were entering corners on tiptoes. The trend now is very firmly to keep the rear ride height as low as possible and allow the shaping of the underfloor to create the suction necessary for downforce, rather than the somewhat crude expansion of a flat floor running at an exaggerated angle.

This in turn led to a phenomenon unknown to a younger generation of engineers who had spent their entire careers in F1: porpoising. Porpoising is an unstable coupling of the aerodynamics of the car with the vertical stiffness of the suspension and tyre. As downforce is developed with increasing speed the chassis is sucked down toward the track surface until it experiences an aerodynamic stall, resulting in a loss of downforce and a subsequent release of the suction force, allowing the car to 'bounce' back up again. This will tend to happen at the natural bounce or pitch frequency of the chassis and can become extremely unstable.

Older engineers, and those with experience of modern Le Mans prototype sportscars are well aware of the phenomenon and how to correct it. It requires bodywork to be aero-elastically stiff and high-speed ride heights to be conservative, together with supple and well damped suspension. Subtle floor features, as seen on the McLaren, can also help. The teams will soon get on top of the problem and the measure of success will be to tame the oscillation without giving up too much performance. ►

NEW RULES: EARLY SIGNS ARE PROMISING

After three days watching on site in Barcelona, in what was termed a shakedown rather than a test, and with all the caveats associated with pre-season testing, it is interesting to reflect on the true birth of Formula 1's new era, what was unexpected and what bodes for the season ahead.

I write this before the season proper has started and, as I have written about before, the idea of analysing the lap times and determining the likely 2022 world champion is a flight of fancy only undertaken by those who don't know how much they don't know.

What we can comment on is what we see in the way of design clues and, to some extent, what we may surmise from the track running in terms of lap times and visual clues. Firstly, we perhaps should remind ourselves of the provenance of the rules that have led to this year's contenders. In 2017, when the commercial rights to F1 were bought by Liberty Media, a root and branch analysis of the sport's future was undertaken. Rapidly rising to prominence was the fact that F1, if it were to grow,



Early feedback from drivers is that following in a car's wake is easier, although the true test will be race conditions

needed to entertain and needed to be sustainable both economically and environmentally.

It didn't take much market research to determine that entertainment was driven by unpredictability and close racing, and to achieve this a fundamental reset was needed in the direction of both how the teams were run and of the car design, particularly in the field of aerodynamics. This led to the introduction of the budget cap and a totally new set of regulations borne by the most intense research programme ever undertaken to determine a new set of rules.

As the study developed and regulations were drafted and shared with teams, there was an

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Treatments of the four permitted front wing elements varied from team to team at Barcelona, the first 'shakedown' test of the new rules

Bodywork has become ever more shrink wrapped around mechanical components, with even side impact structures now visible as protuberances into areas of carefully channelled air. The undercut sidepod is now *de rigueur* with Williams taking it to extremes at the rear and Red Bull at the front. Mercedes produced an even bigger surprise in this area, with the so-called 'zero sidepod' design it revealed in Bahrain..

I was pleasantly surprised to see a fair amount of variation of front wing design. There doesn't appear to be a consensus of opinion yet about the span-wise loading of the wing, and the treatment and attachment of the four elements shows considerable variation along the pitlane.

I might be biased, but one thing I do see is that the cars look far more attractive with their simple lines and the timely disappearance of the intricate barge board areas of the previous generation of cars. Biased or not, I am pleased to say others

THE CARS LOOK FAR MORE ATTRACTIVE WITH THEIR SIMPLE LINES AND THE TIMELY DISAPPEARANCE OF THE INTRICATE BARGE BOARD AREAS

I speak to seem to agree. I am ambivalent about the 18" wheels. I think they look more modern but the reason for going in this direction was much more about aerodynamic stability than aesthetics.

But what of the real drivers for these new regulations – reduced costs and closer following capability? A totally new design with minimal carryover will always initially cost more, but I think simplicity will soon dominate reduced costs.

Regarding close following, I was cheered by the comments of drivers who had experienced close proximity in the test. They were unanimous in their enthusiasm for the far more consistent balance and higher retained downforce in the wake of others. During testing cars try to keep away from each other so our sample will remain small until we get to race conditions, but this new generation of cars bodes well for many exciting seasons to come.



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STRAIGHT TALK

MARK GALLAGHER

[@_markgallagher](#)

only exist because of blockchain technology. There remain large parts of the world in which people have no access to traditional banking services, so cryptocurrencies offer a real alternative.

As the world of business and finance has awakened to the benefits of cryptocurrencies secured by blockchain technology, a battle has broken out between providers – a land grab to secure as many of the estimated 300 million cryptocurrency users as possible.

In the midst of this war for the hearts and minds of cryptocurrency users, sports such as F1 are benefitting. That large, technology-loving, global fan base is extremely attractive.

As a sponsor of F1, the Aston Martin team and the Miami Grand Prix, crypto.com is particularly high profile. Its app-based exchange offers users the opportunity to trade in over 250 cryptocurrencies.

Crypto.com is estimated to have spent USD\$400million on sponsorships in the past two years. Included in its portfolio are American pro basketball team the Philadelphia 76ers, footballing giants Paris Saint-Germain, and the Ultimate Fighting Championship.

FTX is a Bahamas-based cryptocurrency exchange partnered

with Mercedes in F1. In the first half of last year, it reported daily trading volumes of between USD\$150million and \$1billion. Yes, *per day*. Meanwhile, down in Maranello, Ferrari's new partner Velas is a leading player in blockchain technology using the Ethereum cryptocurrency, second only to Bitcoin in popularity.

The Tezos blockchain partners Red Bull and McLaren, Binance's cryptocurrency and blockchain offering can be found at Alpine, while AlphaTauri promotes the Fantom blockchain, and Alfa Romeo sports the Socios blockchain, Valud crypto lending platform and Floki's crypto coin.

Which brings us to every fan's new favourite: NFTs – non-fungible tokens – an intrinsic part of many of the deals above. In the same way as a fan might buy a piece of merchandise or memorabilia, you can now seek to own a digital asset, be that the image of a car component, helmet design, livery or any item that can be provided in digital form.

The 'non-fungible' aspect means your NFT is unique, tradeable and possessing a value which you and the market attributes to it.

All of this is about value, because blockchain, cryptocurrencies and NFTs illustrate an important point: no currency – including coins and bank notes – has any intrinsic value other than what society places upon it. In a world where cash is disappearing and digital is now king, F1 has become a battleground for the future of how we value, trade and transact.

IT'S MONEY, BUT NOT AS WE KNOW IT...

If 2022 did not already feel like a new era in F1, spare a thought for us sponsorship watchers.

I'm talking about the tidal wave of blockchain, cryptocurrency and non-fungible token (NFT) deals that have been announced in recent months.

Blockchain, the underlying technology behind the rise of cryptocurrencies, takes a little explaining. So strap yourselves in.

It's a decentralised ledger – a collection of financial transactions – held across a peer-to-peer computer network. The key word here is 'decentralised' meaning that there is essentially no need for a central clearing authority, such as a bank. It also requires a cyber-secure currency to be created – hence the birth of cryptocurrencies.

Each block in the sequence of transactions is completely secure yet transparent such that each link in this 'chain' is fully known and unalterable. It's a powerful technology, using cryptography to guarantee the security and timeliness of each transaction.

Cryptocurrencies – such as the original Bitcoin –



Blockchain, cryptocurrency and NFT partnerships are all the rage in F1 at the moment. Mercedes (top), AlphaTauri (middle) and Red Bull (bottom) are just three of the teams involved

HIS TIME IS NOW

Fernando Alonso hasn't won a world championship in 15 years, or a grand prix in the past eight seasons, yet he remains one of the best drivers ever to grace an F1 grid. As he heads towards his 41st birthday, and the twilight of his career, is there still time for one last hurrah?

WORDS OLEG KARPOV PICTURES ALPINE







ERNANDO ALONSO is confused and even a little puzzled, but still up for the challenge. “Yes. Why?” he wonders when *GP Racing* asks him to add together five numbers to each other. He leans over the table to glance at them in our notes and returns to his initial sitting position in three seconds with a playful smile.

“336,” he says.

Here’s your answer, Fernando. That’s the exact number of his grand prix entries (including three non-starts) before the 2022 season, as we speak on a cool evening in Bahrain during the last test before F1’s new era begins at the same venue in a week’s time: 17 with Minardi, 106 in two spells with Renault combined and 95 during another two at McLaren, plus 96 with Ferrari and 22 with Alpine last year.

Perhaps he knows these numbers by heart, but still acts surprised. Anyway, this is not the most difficult task for a guy who – as many in the paddock are convinced – can add up three-digit numbers while driving a Formula 1 car and, according to a former Ferrari sporting director

Massimo Rivola, often left the team’s engineers “feeling like idiots” thanks to his ability to see races like nobody else can, including those sitting on the pitwall.

“I can do [it] faster,” Alonso insists, blaming – it must be admitted, not without reason – our handwriting for that three-second delay in supplying the answer.

Alonso is 40 years old and set to surpass Kimi Räikkönen’s record of most grand prix entries by the middle of autumn this year, and is still in great form. “Fernando is still one of the best on the grid,” said former F1 driver and *Sky Sports F1* commentator Martin Brundle ahead of the season. “If he was in the Mercedes, I think he’s got world championship potential.”

Alonso himself is happy to agree.

“Yes, I do,” he says, when asked if he believes Brundle’s assumption is correct. “Obviously, if not, I was not here. I’m not here to travel around the world. You’re here because you trust [in your abilities] and you have your self-confidence and belief you can do well and drive well.

“I came back to Formula 1 because I felt that I was able to perform still at the highest level possible. And yeah, I do believe that if we have the right package in the next coming years, we could fight. Then, winning a title requires a lot more things, luck and other. But to be a contender, I think we are able to do.”

THE LURE OF A ‘NEW’ F1

It is this desire to win that is the real reason he’s back. The new technical regulations – touted as the biggest rule change in at least four decades – along with the introduction of the cost cap, is an opportunity for teams like Alonso’s Alpine to move up a tier in F1 and potentially challenge the likes of Ferrari, Mercedes and Red Bull.

“I think if the rules continue as they were last year, you only come back in Formula 1 if you are in one of the two teams, you know, in Red Bull or Mercedes, that you can win races or win or fight for championships,” Alonso says. “Now with the new rules, I know that the top teams are still the favourite ones. But I think there are more possibilities. So you try to take that challenge and hopefully build something from zero to the winning.”

And while he doesn’t think F1’s new era is going to be its best, he’s still glad of the

opportunity to have another go.

“I normally say that the early 2000s were the cars that I did enjoy most,” he says. “They were very light, compared to our days, you know, 200 kilos lighter. The V10s were amazing engines, with a lot of torque, also this sound and the high revs. It was really, really, really unique when you jump in a Formula 1 car, so I think those were the best years that I remember.

“I love when car manufacturers go into the sport – early 2000s we had some private teams, yes, but a lot of big manufacturers interested in Formula 1. And some freedom also in terms of design and philosophies. I would like that as well in [modern] Formula 1.

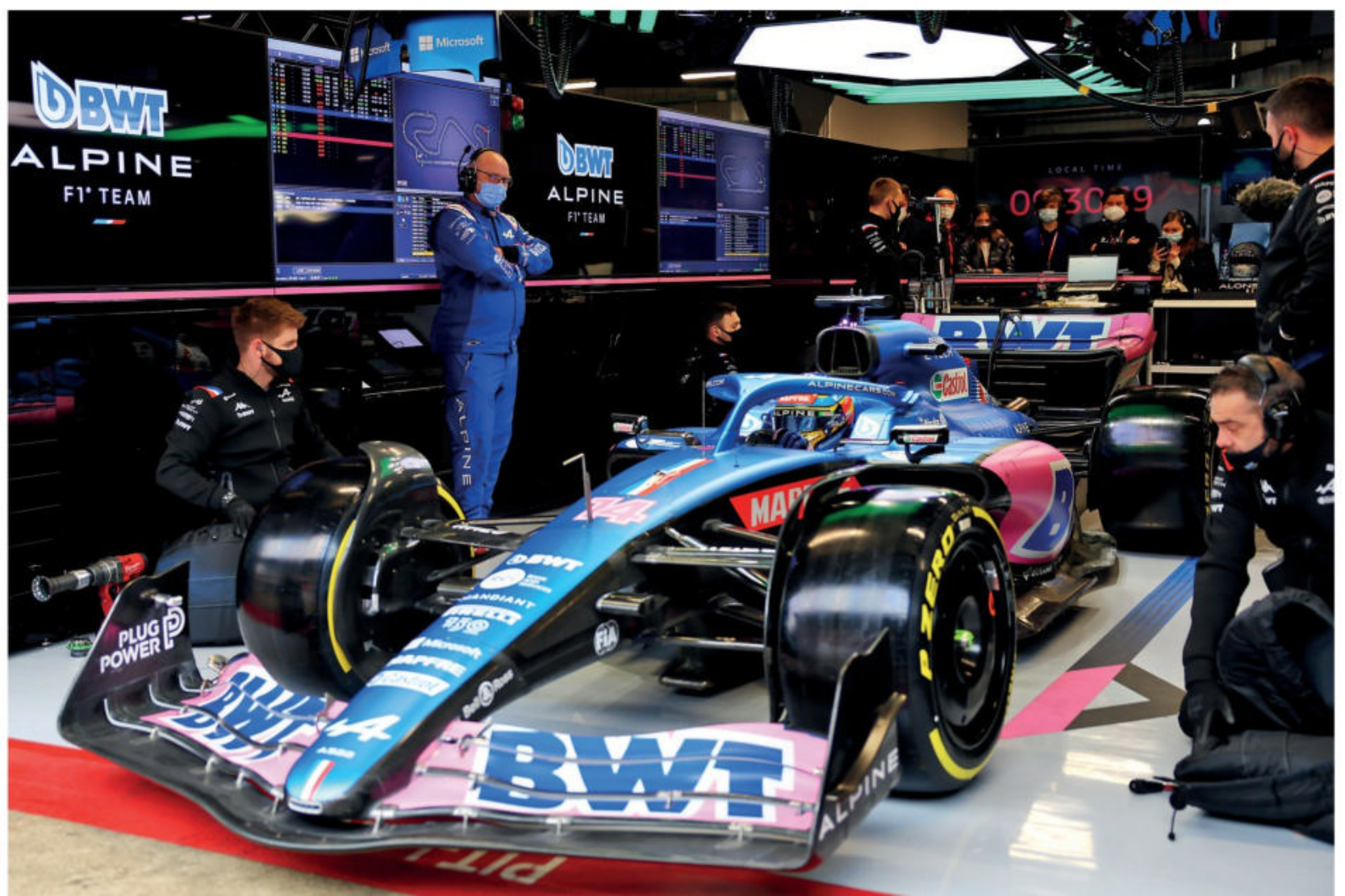
“I know that we are not going into that direction, we’re going in the opposite, because of the cost cap and more common parts and things like that. But that’s OK. Now it’s just different. And the cars are just very different to drive. But they are very safe, first of all, and the sustainability is an important thing now, not only in Formula 1, also in the world in general. So we are happy to follow that direction.” ►

"Now it's just different. The cars are very different to drive. But they are very safe and the sustainability is an important thing now, not only in Formula 1, also in the world in general. So we are happy to follow that direction"





Alonso used 2021 to settle back in at 'Team Enstone', but it was this year's new rules that attracted him back to F1



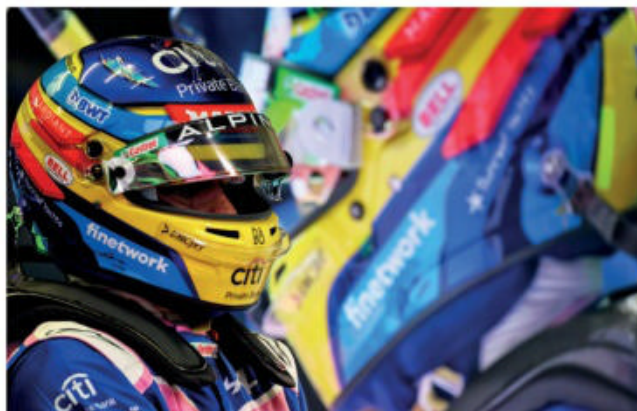
"USELESS MOMENTS" NO MORE

The timing of Alonso's comeback was perfect. Daniel Ricciardo's defection to McLaren freed a place for Fernando in Team Enstone, with which he won both of his titles. Delaying the new rules until this season meant Alonso had a year to re-acclimatise to F1 and prepare for the regulation change. And although a bike accident last winter slightly disrupted his comeback progression, by the beginning of the summer no one had any doubts that Alonso was properly back.

It was important for him too, to understand if he's able to complete 22 race weekends across four different continents in a single year, and still enjoy it.

"I think I got everything I was looking for last year," he says. "I thought that it was the right thing to do to come back. Other series were not so appealing after the pandemic, they were all struggling a little bit for sponsors and for competitive seats and teams and... I think Formula 1 is still very healthy in that respect, even with the pandemic.

"That was appealing, and also the 2022 rules that we introduce this year were probably the biggest reason. Because last year we knew how competitive we could be, it was a continuation of 2020, of what Daniel and Esteban [Ocon] did in 2020. I knew what kind of results to expect. So I embraced it, [as well as] all the other things in Formula 1, the popularity that the series has, the comfort that you get here, how you get treated, you know, like a hero. F1 has a lot of privileges for drivers. So, yeah, I enjoyed all of that as well."



His two-year sabbatical (2019-2020) not only allowed Alonso a break from Formula 1 after those difficult years with the struggling McLaren-Honda project, but also to fall in love with motorsport again.

"I saw Formula 1 from outside as well," he continues, "which is very different to watching from the inside, because here you live day by day, and performance is the only topic that you talk [about], 24 hours a day.

"You lose sometimes the general picture of the sport and what is good to do. Even simple things like the national anthem and protocols on the grid and things like that. You used to hate those moments, because it's completely, you know, a waste of time, and you need that time to prepare the start or the engine or something.

"Then when you are two years out and you watch TV, and [realise] those moments are quite special, for the fans and for the sponsors, for everyone. So if you have the chance to come back, those moments you live in a different way. And you enjoy it in a different way. They are part of the show and you start enjoying some things that were like useless moments of the weekend."

SABBATICAL THOUGHTS SINCE 2009

Räikkönen, who made a detour into rallying in 2010 and 2011, has repeatedly said that without that break he would have never stayed in F1 for so long. The same goes for Alonso.

"Absolutely," he confirms. "I thought a couple of times to stop Formula 1 [even before]. One was around 2009, because I switched to McLaren at the end of 2006. I signed a three-year contract with McLaren, and I thought that that was my last contract. I was double world champion, I had three years in McLaren [ahead of me]. I thought at that time that could be a good moment to stop.

"And then I had another moment that I thought that it was nice to have some sabbatical years, it was around 2014 when I stopped [with] Ferrari. And then 2018 is where I finally made that decision. But it was always in my head, you know, from 2009 basically, to stop for a couple of years. And then reset yourself for another push, because if you keep going always, you cannot be that long in Formula 1, because it's too demanding, on track and off track."

Räikkönen managed to win a couple of races

and even fight for titles – albeit constructors' only – during his 'second career' with Ferrari, but the story of another former Alonso rival Michael Schumacher's return to the sport was far less impressive. The German not only failed to match his previous results (which was to be expected given the level of Mercedes at that time), but was bested by Nico Rosberg, allowing the public to conclude that Schumacher was "not the same anymore".

You won't find many in an F1 paddock who would say something similar about Alonso.

"I think there were maybe two differences, or what I see obviously, I don't have exactly all the information about Michael," says Fernando when asked to compare his comeback to Schumacher's return to F1 in 2010. "For me, one difference was that I was very active when I stopped Formula 1. I was every weekend in a race car.

"I did Indy, I did the World Endurance Championship, Daytona, Dakar, so many different series. That kept me very active and into driving. Even discovering different driving techniques and different driving approaches. So that made me, I think, a little bit more complete a driver.

"Michael, I don't know exactly what he was doing, but what we read is that he was doing motorbikes and this kind of things.

"And then the second thing is that Michael retired after a winning era in Ferrari. So when you come back, if you are not at that level or that kind of results, everything looks bad. ▶

"I saw Formula 1 from outside as well, which is very different to watching from the inside... so if you have the chance to come back, some moments you live in a different way"



“When I stopped in 2018, I stopped after a few years of quite low, you know, and not good results. So immediately when you are in the top 10 or top six or whatever, it looks much better, because your last memory was not fighting for the championship!”

QATAR PODIUM BIGGER THAN IT SEEMED

Alonso's first lap during last season's sprint race at Silverstone showed he's still a wizard at starts; his fierce battle with Lewis Hamilton in Budapest not only allowed his team-mate to win a race, but proved that Fernando's racecraft is still excellent. His podium in Qatar was the final bit of evidence needed to show this Alonso was as good as the one before – not only because he managed to finish third in an F1 race, but mainly because he did it on merit, beating one of the Red Bulls on the way to that podium.

“Until Qatar I thought it was not too important,” Alonso says, “because the podium was... I mean, it's nice to be on the podium, but it's not the end of the world [if it doesn't happen]. But then, with months coming after Qatar, I realised that, yeah, it was important. It was important to release some of the weight on my shoulders, and the fans and expectations that

are always created around me.

“That podium meant more than I thought right there when I was in Qatar. So I'm happy with that. It was a race that was not a six red flags, rain, dry, you know, a big chaos, it was a more or less a normal race. That was a good feeling.”

After Räikkönen's retirement, Alonso is the most experienced driver on the grid. But it's not just the age and the number of starts (333). Fernando is the only driver in F1 with racing experience in IndyCar, WEC, Daytona, Dakar. He feels he's not only as fast as before, but also more ready to push the team forward.

“For sure, with more background on myself,” he says, “I cannot compare with others, but if I compare myself to 10 years ago, 15 years ago, I'm surely much better now. And I can, I think, say to the team different things in a different way, that are much more precise, you know, to what we have to do. So, yeah, I hope it helps to have that extra experience.”

“I cannot compare with others, but if I compare myself to 10 years ago, 15 years ago, I'm surely much better now”

TRUST IN THE PROCESS

Alonso is in love with F1 again. He's still hungry, even when he's only fighting for lower points positions. He still thinks he's good enough to fight for the championship. But will he have a good enough car? Is Alpine ready to provide him with one?

“Well, you never know until you are in that point,” he says. “At the moment we are making the team stronger. If I think back one year ago, and we were here in Bahrain, and how the team is now, we are much more prepared. I think some of the areas that we were weak now they are very strong, and we have a very good group of people. And on [the] track side I think we are maximising everything we have every weekend.

“Obviously, how competitive you are is difficult to know until we put the cars on track

Alonso feels Alpine is in a much better position than it was this time last year, despite a number of management changes



and the development that you do during the year. So there are a couple of things that we still need to improve as a team. But we are working on that. And now we have this possibility of the cost cap, which in the previous years maybe to reach a certain level it was nearly impossible for some teams. Now I think you can do, because we have the same cards on the table for everybody.”

There are some worrying signs, though. Team Enstone has already gone through a lot of tribulations after being sold to Gérard López in 2009, then subsequently being rebuilt by Cyril Abiteboul under the Renault moniker. And Team Enstone is again undergoing big changes under the new leadership of Laurent Rossi. Abiteboul’s now gone, as is former ally Marcin Budkowski. Davide Brivio, who joined Alpine in a new role of race director at the start of last season, has moved to a different position. Alain Prost has also left, slamming the door behind him and giving a caustic interview to *L’Equipe*, in which

he accused Rossi of wanting “all the spotlight”. Aston Martin’s Otmar Szafnauer and the FIA’s Bruno Famin are fresh through the door.

Who better than Alonso to know that times of change can be hard? But perhaps his only option now is to believe those changes will bring something good.

“Changes are not always the best thing, because there are too many things going on in the team, and you need to find some stability,” he says. “But we have great leaders in our team, we have Laurent, CEO of Alpine, we have Luca de Meo, the president [CEO of Renault], who is very supportive about Formula 1, which we need. And we trust them, and [that] all the changes that they are making is because they believe it is the best thing. And we support them.”

It’s clear, though, that Alpine won’t be able to fight for wins (at least on a regular basis) this year. Laurent Rossi keeps talking about a 100-race project and stresses that “the objective is to

reach a level of competitiveness that places us on the podium as many times as possible in 2024”.

You don’t have to be as quick at maths as Fernando to be able to add another 100 to his 336 GP entries. It is going to be a very big number.


Does he have his own deadline?

“Probably,” he answers. “Because I will not race more than four seasons, I think. But it would be nice to reach 400. That’s a good number! I don’t know how many seasons I need to race.

“336 will be at the end of this year?” he asks.

No, Fernando, that’s now...

“So we need to put 23 on that. It’s 359. So... another two seasons, probably, after this one. It is reachable. Yeah, 400 is reachable.”

This is undoubtedly his last chance to win again. And to reach 400 races will require a contract extension beyond this season. Eventually, time – and those big numbers – will catch up with F1’s warrior. But he certainly won’t go down without a fight. 

THE BEST DRIVER *NOT* ON THE GRID

Oscar Piastri is a consecutive champion of F3 and F2, matching the achievements of Ferrari's Charles Leclerc and Mercedes' George Russell before they made their big breaks in F1 – yet Piastri is set for a year on the sidelines as Alpine's reserve driver. What more can he do to break through?

WORDS OLEG KARPOV

PICTURES ALPINE, SHUTTERSTOCK



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“I FEEL I HAVE DONE basically everything I can to try and prove myself,” reigning F2 champion and Alpine's reserve driver for this year Oscar Piastri tells *GP Racing*. “Mainly on the track, but I feel like I've proven myself off the track as well.

“I think the results speak for themselves, really. I don't really think I have to add too much more.”

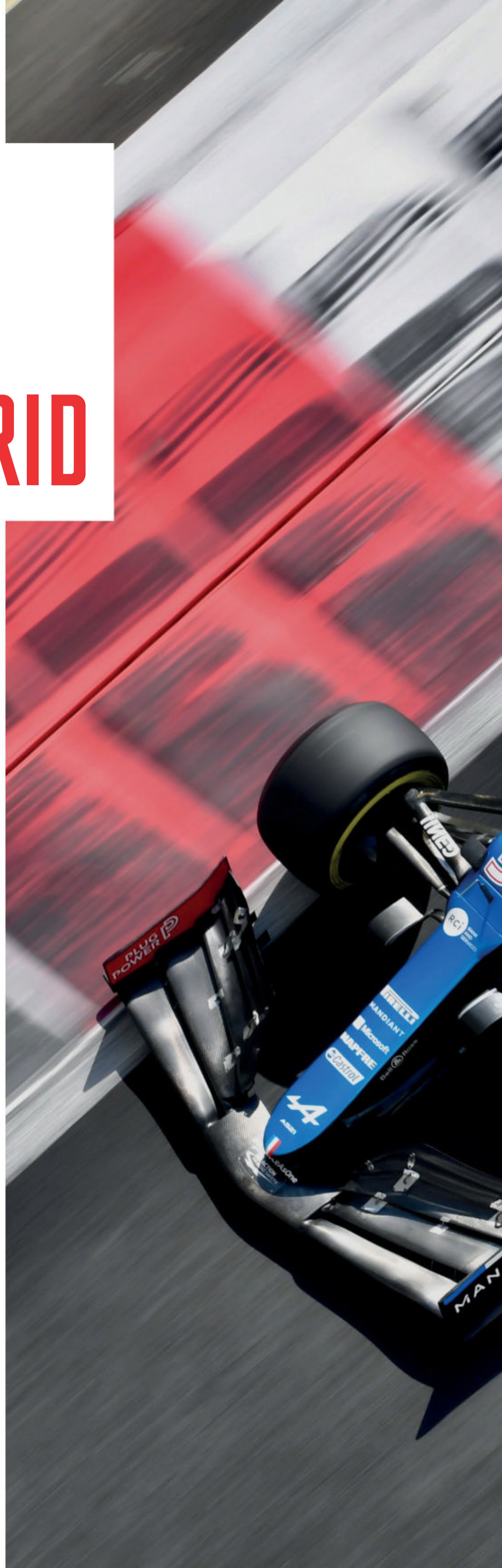
It's impossible to argue otherwise.

After winning the Formula Renault Eurocup in 2019, Piastri switched to Formula 3 for 2020 and took the title at his first attempt. Then he moved up to Formula 2 and again claimed the crown in his rookie season.

There's really not much more to add.

Among the current Formula 1 drivers, only two can boast a similar CV. Charles Leclerc won GP3 at the first time of asking in 2016 and then claimed the F2 title the following year. George Russell effectively did the same across 2017 (GP3) and 2018 (F2). In 2022, both are drivers in top F1 teams, Ferrari and Mercedes respectively.

There's effectively just two main ways to reach modern Formula 1 for young ▶







drivers. If you're young and talented, you can join an F1 junior programme and, should you impress in junior categories, you may be invited to continue your education in F1, within an affiliated team. Leclerc debuted with Alfa Romeo, which was obliged to field a Ferrari-picked driver in one of its seats; Russell drove for Mercedes engine customer Williams.

Alpine, which brought Piastri into its junior fold two years ago, doesn't have a B-team in Formula 1. And since its A-team's roster is filled with a two-time world champion and a Frenchman with a long-term deal, Oscar has found himself on the substitutes bench.

There is a second way, and it's arguably easier. You can simply ask your dad to buy you a seat. But that doesn't really work for Piastri, for a couple of reasons.

"Firstly," Oscar smiles, "I think for me morally, I said from the beginning to myself, if I get to F1 I'm going to get there because I deserve to be there and not because my dad bought me a seat, because that defeats the purpose in my eyes of being a professional racing driver because you're not a professional if that's the case. For me, morally, that was quite a major thing.

"And secondly, we don't have the funding to do that. I'm certainly not saying that we're, you know, struggling or anything like that. My junior career has been more than expensive. For most people my junior career, you know, cost more than what I guess some people outside of motorsport can only dream of in some cases. So I'm really aware of how much money's already been spent on me by firstly my family, as number one, Alpine as well, and various sponsors.

"So yeah, firstly, I don't want to get to F1 because somebody has paid for me to be there, certainly my family anyway. I don't think that's right or fair on them. And secondly, even if I was

OK with that, we wouldn't be able to do it."

Piastri, as he puts it, was "born to be a race driver" thanks to his family's ties to the automotive industry in his native Australia.

"My mum's dad and my dad's dad were both mechanics," he explains. "Being in that industry, they naturally followed motorsport. My dad then, I guess naturally from his dad, was interested in motorsport as well, but he was also never really involved. But his business is in the automotive business, car-tuning business. So yeah, I guess, all the possibilities and potential was there to join motorsport. But I was the first one in the family to actually be involved."

After a few successful seasons in Australian karting, Piastri faced the need to do what all of his fellow F1-dreaming compatriots end up having to do – pack his bags and leave for Europe. He did so in 2016, at the age of 15.

"I'd done a couple of races in Europe before that, but that year we decided to go for it fully," he recalls. "I moved to the UK at the start of 2016 with my dad firstly, for the first six months, and my mum was back in Australia, looking after my

Piastri followed up his F3 success in 2020 with the F2 title last season. The Australian was the first rookie champion since George Russell in 2018



sisters. They swapped roles a couple of times, but then, at the start of the school year, my dad basically said, you know, ‘of course I want to let you follow your dream, but I need to do my own work, I need to be able to support you.’”

Piastrri went to a boarding school, which kept him busy on weekdays, and was racing on weekends.

“That was difficult at first,” he admits. “And of course not being able to see my mum or my sisters very often was difficult, all my friends back in Australia, but I think being more involved in the community and being involved at school helped to, I guess, integrate myself into life there.

“Being with a bunch of friends in boarding school, living together during the whole week, I think that made things much, much easier. I had people my own age to talk to and I had people around me and that kind of [racing] community around me.”

His subsequent results proved his relocation had been worth it. His single-seater career up to now comprises five seasons in five different cars – though Piastrri did stay for two years in Formula Renault Eurocup, but it underwent a machinery change after his first campaign.

Throughout, being a quick learner allowed him to fight for podiums and wins from the word go, despite the strict testing limits in F3 and F2.

As Oscar himself once pointed out, “excessive testing doesn’t really suit me”.

“I guess a natural trait of mine is to pick things up quite quickly,” he elaborates. “I mean, throughout my whole junior career... yes, I’ve had two years of Formula Renault, but there were two very different cars for those years. I think for me adaptability is one of my strengths. I don’t feel like I need quite as much time as some drivers.

Piastrri in Alpine’s 2021 car at the Abu Dhabi test last December. He’ll get a couple of FP1 runs this season, but is also set for a programme of testing older F1 machinery on top of his sim work

“In F3, for example, we had three days of testing and then COVID hit, we had a massive break and moved straight back into the season. I think that time off and that break actually suited me quite nicely. And in some ways, I guess, the [last year’s] F2 calendar [with eight rounds spanning almost nine months] also suited me a bit, with the big breaks in between races.”

Inevitably he drew attention to himself. Now not only an Alpine junior, he was also managed by Mark Webber. They got to know each other through a fellow Australian, Simon Sostaric, a sports scientist and trainer who used to work with Webber – and with Piastrri when he moved to Europe.

“When it got to the end of the Formula Renault [stint], where I was leading the championship at that point, and we were planning on going to F3 for the next year, things were getting more serious,” says Oscar. “We needed somebody to start managing me and taking care of my career really. We knew that Mark was managing Mitch Evans already, and also we had the mutual connection, Mark being Australian. And it was just a very good combination of factors, really.”

He adds: “I mean, I started properly following F1 in 2009. I remember perfectly, Brawn had a fluoro-yellow car, which when you’re eight looks pretty cool, and of course, they were winning everything. But Mark and Red Bull were there as well, they had their dominant years after that. And you know, Mark was at the front or winning.

“Even seeing ‘Mark Webber’ coming up on my phone, it was kind of like, ‘OK, that’s pretty cool’.

“So yeah, end of 2019, we started working together, officially 2020. It’s been a very good run from there. Firstly, he is my manager and deals with all the behind-the-scenes stuff, so all the paperwork, all the contracts, sorting out all that stuff. But also, you know, he’s obviously a



very successful racing driver and had a successful career in F1, and also in sportscars. So I guess there's that added element of driver knowledge and expertise to give as well."

As Piastri himself has already done his talking on the track, it's now Webber's turn to make sure 2022 will be his protege's only year on the bench.

And while Piastri waits his turn, Alpine will be keeping him busy. Piastri is set for a testing programme in older-generation F1 cars; he will also attend grands prix as reserve and, of course, work in the simulator. After all, even like this Piastri is a serious asset for the team – a lot of insiders say he is one of the best in the simulator.

"I guess, lap times are the first benchmark for whoever thinks I'm good on the sim," he smiles slyly. "In the junior categories it's quite different, because we use it very much as a practice tool. Whereas F1, you know, from the work I've done on the sim, there's a very different philosophy of what the sim is used for. Firstly, because



the models are so much more accurate than the junior models, and there's so much more information available, it's much more about developing the car, you know, making sure the sim is as close to reality as possible.

"It's really used as a development tool for the team and the car rather than focused on the driver. So I think that's where it's a very different mindset. Instead of just chasing outright lap times, and being able to exploit a sim, you need to be able to firstly drive it sensibly and realistically, and be able to give the team useful feedback."

We will definitely see Piastri in a couple of practice sessions, as the regulations now oblige teams to provide grand prix weekend mileage to juniors. But most F1 Fridays Oscar will likely



"AT THE END OF THE DAY, ESPECIALLY FOR ME THIS YEAR, IT'S NOT ABOUT MAKING THE CAR FASTER FOR ME, IT'S ABOUT MAKING THE TEAM FASTER, AND OBVIOUSLY FERNANDO AND ESTEBAN"

spend back at base at Enstone, helping hone setups for the race drivers.

"Sometimes when I've been in the sim, I've driven Fernando's setup, Esteban's setup," he says, "and to me, it's quite clear what each driver is chasing in setup and where they need the car to turn better, turn worse, be more stable."

"At the end of the day, especially for me this year, it's not about making the car faster for me, it's about making the team faster, and obviously Fernando and Esteban."

Piastri's predicament is what F1 team bosses like calling "a good problem to have", when they have more than two good drivers for their two seats. For Oscar himself the problem is real, though. Fernando Alonso is still damn good and is in no rush to end his F1 career. Esteban Ocon's deal runs through 2024. And a B-team for Alpine doesn't exactly seem to be on the horizon.

It's not going to be easy for Webber to find his protege a drive. But there's got to be a way. Because if any racing driver in the world deserves to join the F1 grid, it's Oscar Piastri.

It's simply impossible to argue otherwise. 



Haas
F1 Team

HAAS

150
YEARS
DELUXE

1&1

TRIP
WORK



HAAS

HAAS AL

KEVIN MAGNUSSEN

When Haas fired Nikita Mazepin before the start of the season, Kevin Magnussen was the first person Guenther Steiner phoned to secure a replacement driver. In an interview conducted before the first race, Kevin explains why he was so ready to say yes...

How difficult a decision was it to make in the context of your career – Formula 1 had left you behind rather than you leaving it behind, so there were risks involved in coming back. How did you weigh up the decision?

You know, I was in a happy place. 2021 was really enjoyable for me – I had a daughter, I moved back to Denmark, did an IndyCar race, did a season in IMSA, did Le Mans with my dad.

I was enjoying myself a lot. So I wasn't really thinking about F1. I'd kind of accepted it as a closed chapter. I didn't think I had a chance to go there – I don't bring a lot other than just my driving skills to a team. When Guenther called me it was a big surprise, I felt really excited when he asked if I wanted to come back. Of course, I had some thoughts – what if we're running at the back again – but with the regulation change there's some opportunity. And I thought that opportunity was too good to let go. And I'm still only 29 years old.

What did you first think when you saw 'Guenther Steiner' appear on your phone?

I was like, "I wonder what he wants now." I had just read about what had happened [with Mazepin] prior to that.

How quickly did the deal come together? And how much due diligence did you do – did you just say 'yes' and put the phone down, or did you look into what had been going on in the preceding weeks?

I said yes immediately, and then afterwards I thought about it. Obstacles became clear in that I'd got contracts with other teams [Chip Ganassi in IMSA, and Peugeot in WEC], and also there

were other thoughts – "Do I need this?" But it was the feeling when Guenther called that was so telling. I was happy where I was – but then I just felt so excited about this possibility to go back again. You know, this is my second comeback [after being dropped by McLaren for 2015] and it's fantastic. Anyone who gets the chance to race in F1 is lucky. If you get the opportunity you should always grab it, and seize the moment.

Apart from your drives in IMSA and WEC, was there anything else you had planned in terms of racing this season?

I was also planning to do Le Mans with my dad again. We weren't sure we would be able to do it, but we were trying to make it happen again. I have to say thank you to Peugeot and Chip Ganssai Racing for allowing me to do this, because I was contracted to these two organisations and Chip Ganassi had a big race coming up in Sebring [on the Bahrain Grand Prix weekend]. That didn't give them a lot of time to find a new driver and make new plans.

Has your view on F1 changed at all now coming back? Do you look at it any differently?

The fact that we've got this new car and everyone

is starting from a blank sheet of paper was crucial for my decision to come back. It's exciting, there is the element of the unknown, and there could be some surprises. I want to be there in case we can do something fun.


Romain Grosjean learned to steer clear of you – should Mick do the same?

Did he learn that? We never had such a big problem, me and Romain. I don't see there is going to be any problems here.

Do you think, coming back, you have anything to prove to the team?

F1 is a sport where you always need to prove yourself, every second you have in the car you're proving yourself. That is what's so cool about this sport, it's such a high pressure. There's no time to relax, you have just got to be the best version of yourself. You can never be perfect and you're always striving for better – and it is the most competitive form of motorsport.

Have you had any assurances from Guenther about car performance?

He didn't promise anything, he said that they've been working really hard on it and that has given me some indications. Let's see. I don't think we are going for the championship this year but I think there is a good atmosphere. You can feel something good is coming but let's see. Our expectations are under control, we know better than to think we're going to smash it, but it is good that there are a lot of smiles around the team. Everyone is looking forward to it, they're not afraid of going on track. I feel like the team is in a good place. 

"ANYONE WHO GETS THE CHANCE TO RACE IN F1 IS LUCKY. IF YOU GET THE OPPORTUNITY YOU SHOULD ALWAYS GRAB IT"

NOW YOU SEE ME

After two years of hype, bluster and behind-the-scenes machinations, F1's new generation of cars have broken cover – and they're refreshingly different

WORDS STUART CODLING PICTURES  **motorsport**
ILLUSTRATIONS GIORGIO PIOLA

NEW RULES MAKE for perilous times in Formula 1: every team has spent the past two years sweating over the details of the latest technical regulations, nervously juggling resources between in-season development and future research. And at the back of their minds the constant fear – what if we've got it wrong? What if our rivals have got it absolutely right?

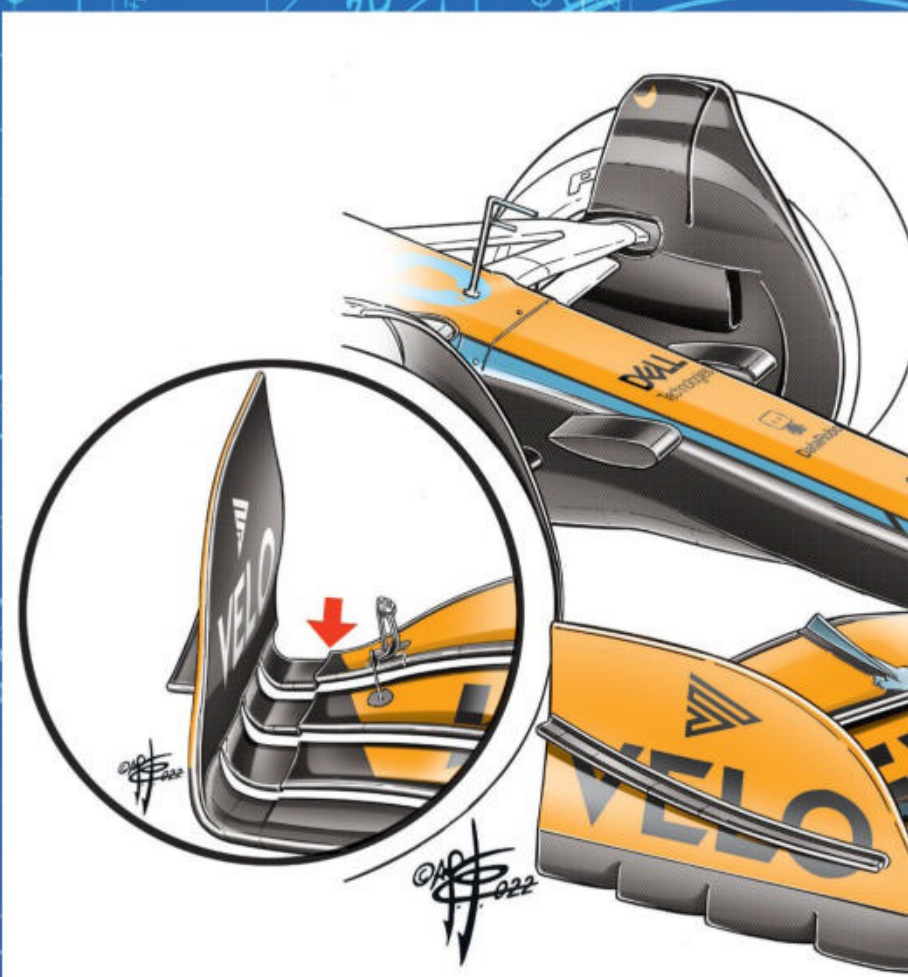
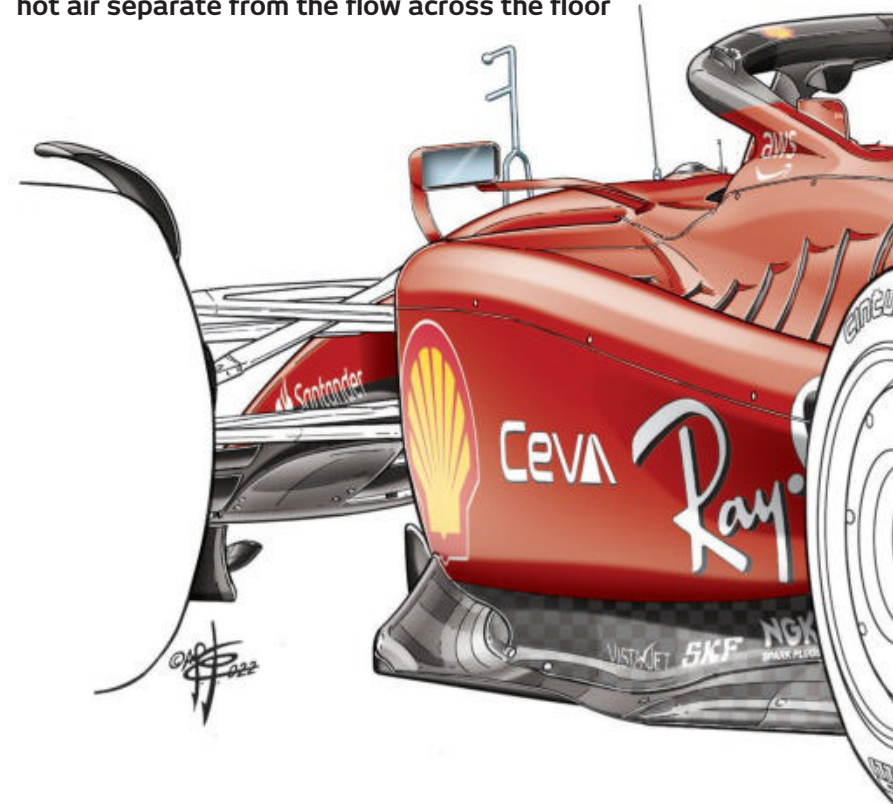
In the coming weeks the true competitive picture will emerge. Already we've seen plenty of exciting designs, including a fascinating and controversial rug-pull by Mercedes, which introduced a radical 'size zero' sidepod configuration at the second pre-season test. But the team which has won every constructors' championship since 2014 – and delivered all but one of the drivers' titles since then – also seemed the worst afflicted by an aerodynamic instability which has hit every team on the grid.

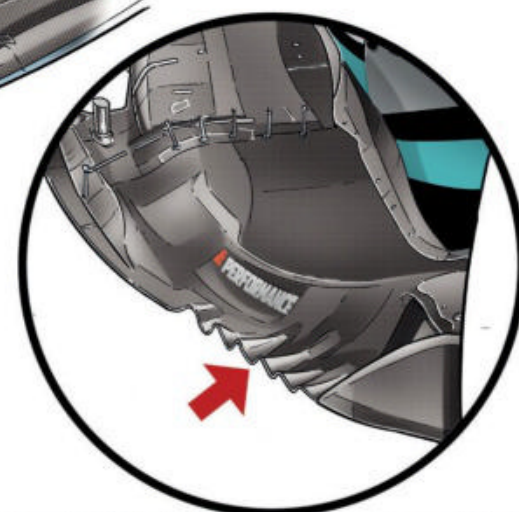
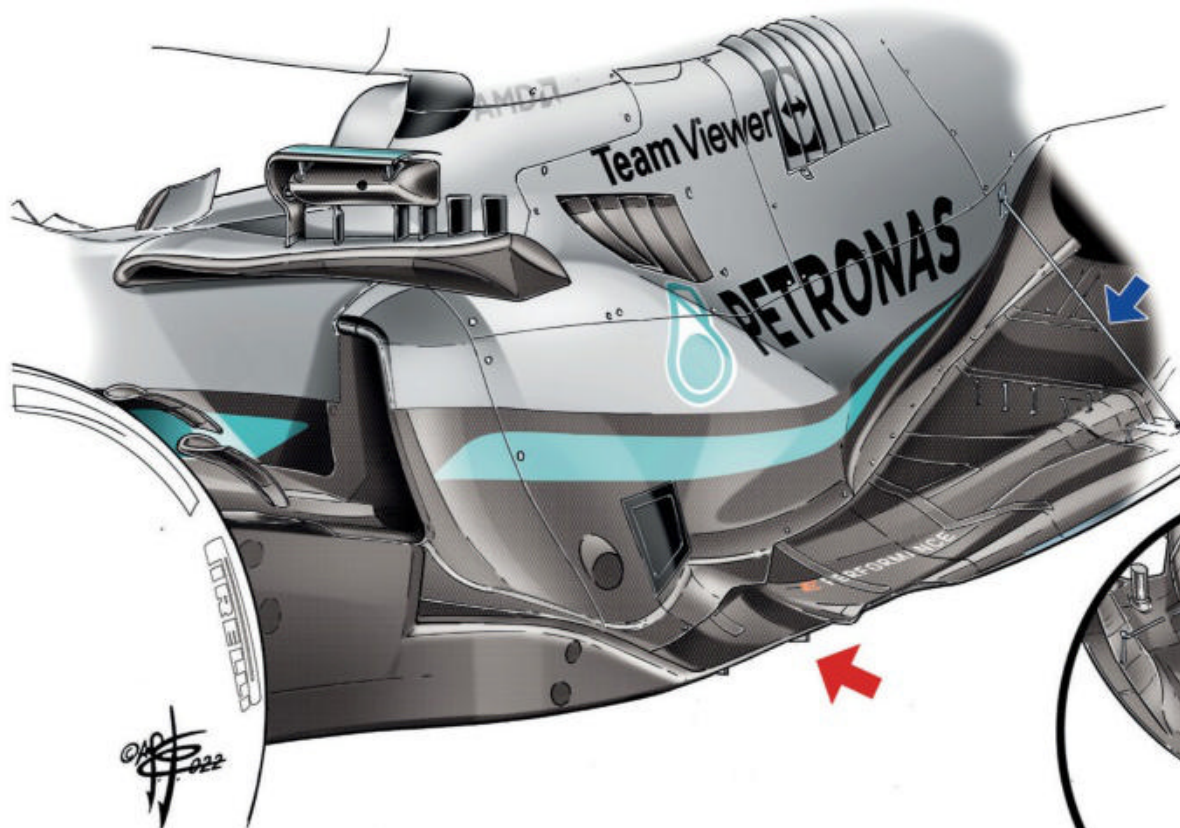
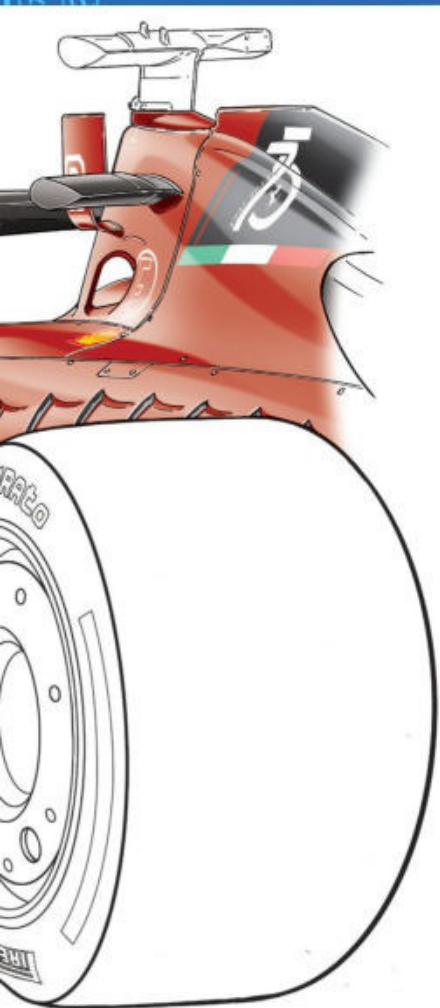
Call it what you want: porpoising, bouncing, uncontrolled oscillation. Our columnist Pat Symonds

defines it as “an unstable coupling of the aerodynamics of the car with the vertical stiffness of the suspension and tyre” (see p24). On the new F1 machines it's caused by the underbody venturi creating downforce – which they're supposed to – but then reaching a critical point as the car body is sucked down towards the track surface. The airflow stalls, the downforce is lost and the back of the car pops back up again, only for the aerodynamic forces to build once more, looping back to the start of the process.

Porpoising is a consequence of the new rules making underbody airflow a more significant generator of downforce than the front and rear wings. It's going to take time to dial out, since teams are still in the early stages of understanding how their cars work as a complete system. Significantly, some chose to hold back on adding major upgrades until the first race, using the second test to focus on understanding the real-world implications of new rules which have demanded a nose-to-tail rethink. ▶

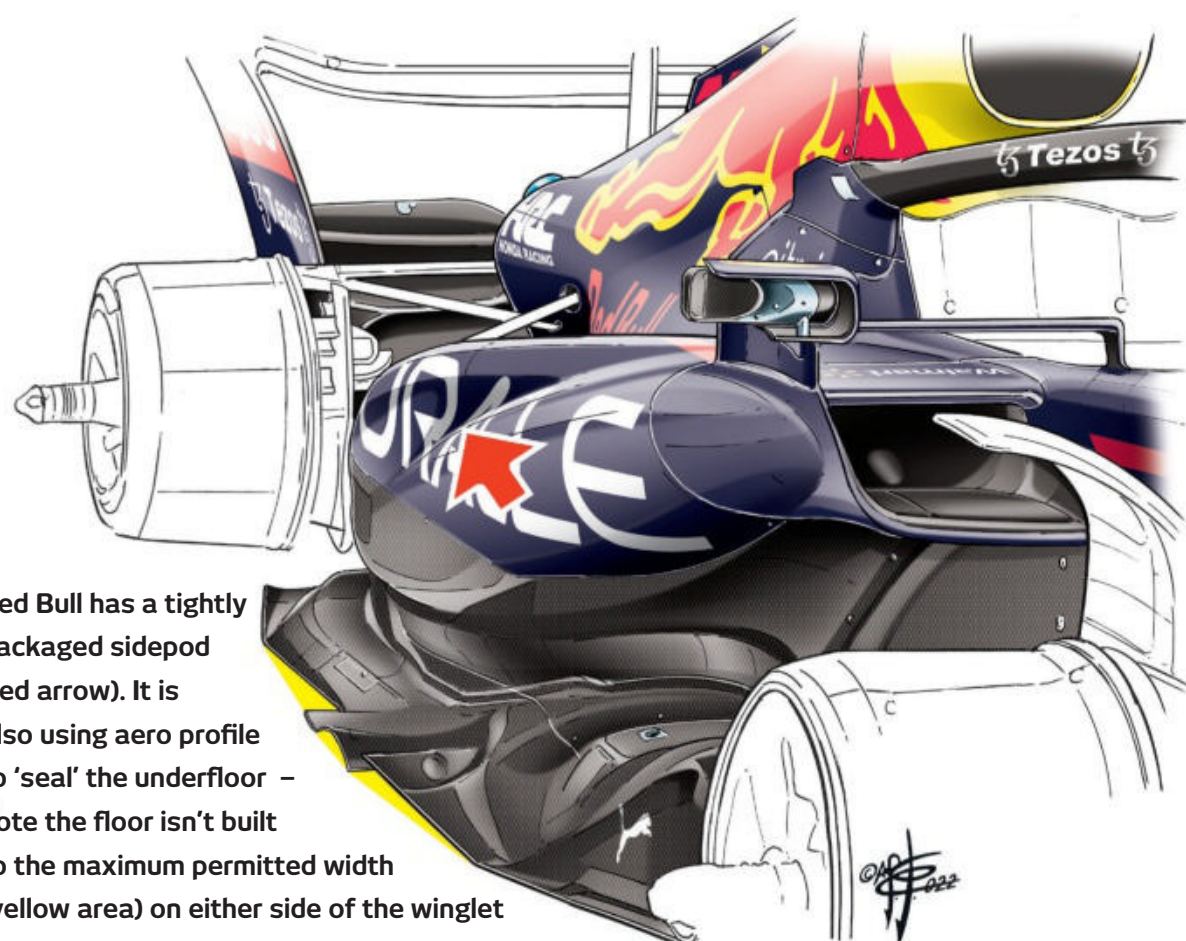
Ferrari has traded off centre of gravity against aerodynamics, mounting radiators high to allow a large undercut. The scalloped sidepod top aims to keep the hot air separate from the flow across the floor





Mercedes continues to experiment with different floor-edge configurations to 'seal' the underfloor. It has noticeably backed off on the 'wrinkles' (red arrows) since the first test (inset image)

McLaren mounts its nose tip to the second element to use the leading edge (large arrow) to set up a beneficial airflow to the underfloor. At the outer edges of the front wing, step profiles (small red arrow) aim to set up an outwash flow



Red Bull has a tightly packaged sidepod (red arrow). It is also using aero profile to 'seal' the underfloor – note the floor isn't built to the maximum permitted width (yellow area) on either side of the winglet

WINGS: COMING UP



GENERALLY SPEAKING, the closer the front wing is to the ground, the more downforce it can produce relative to its surface area. Just over 20 years ago the minimum front wing height was doubled (from 50mm to 100mm) as a crude legislative lever to reduce downforce and slow the cars down. One of the unanticipated effects was making the wings more sensitive to turbulence from cars running ahead. Although the front wing height was lowered again in 2009, other changes at the time and since – making the wings wider – exacerbated the problem rather than solved it.

Reducing wake turbulence is one of the focal points of F1's new rules, which mandate simplified front and rear wings that are less influential on overall downforce as well as (theoretically) producing a less disruptive wake. Most teams have now taken this opportunity to run the front wing higher than before, trying to influence the airflow into the underbody venturi which now produce a greater proportion of the car's overall downforce.

The front wing remains of huge importance in setting up the flow structures for the rest of the car. As *GP Racing* outlined last issue, the new rules governing the shape of the front wing and its endplates aim to stop the teams setting up vortices which 'outwash' air around the front wheels. While the wing still has a role to play in generating downforce and dealing with the blockage caused by the front wheels, it can also help service the underfloor. To achieve this, teams take advantage of the airflow's tendency to follow the contours of a curved surface.

Air flowing below the nose tip and along the underside of the nose cone meets the leading edge of the underfloor (also known as the 'tea tray'), which then manages the flow into the underbody venturi. It's important to retain the energy in this airflow because this helps

the diffuser 'pull' the whole stream through. This depends on many factors, from the profile of the leading edge of the wing to the number of slot gaps, the camber profile of the wing elements, and by how much they overlap.

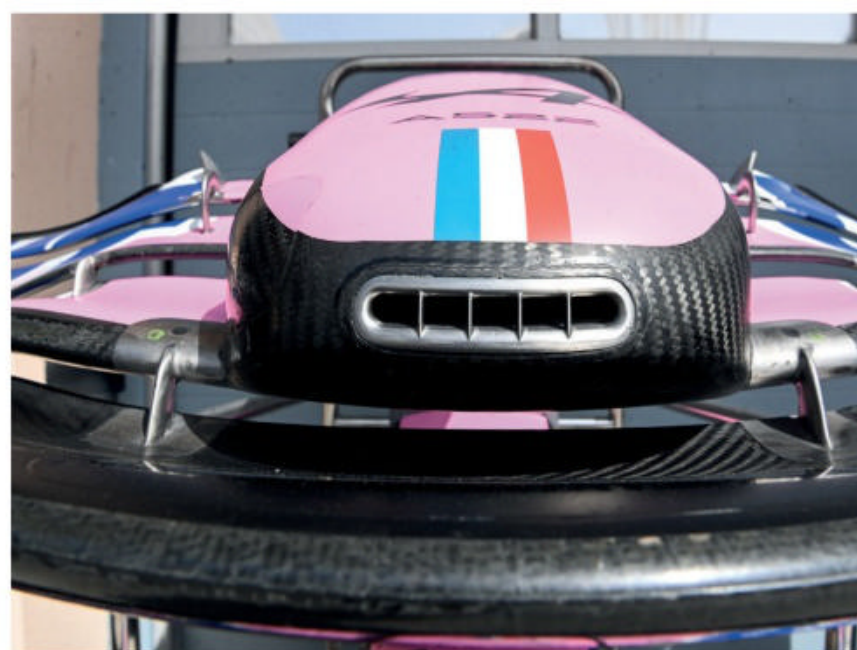
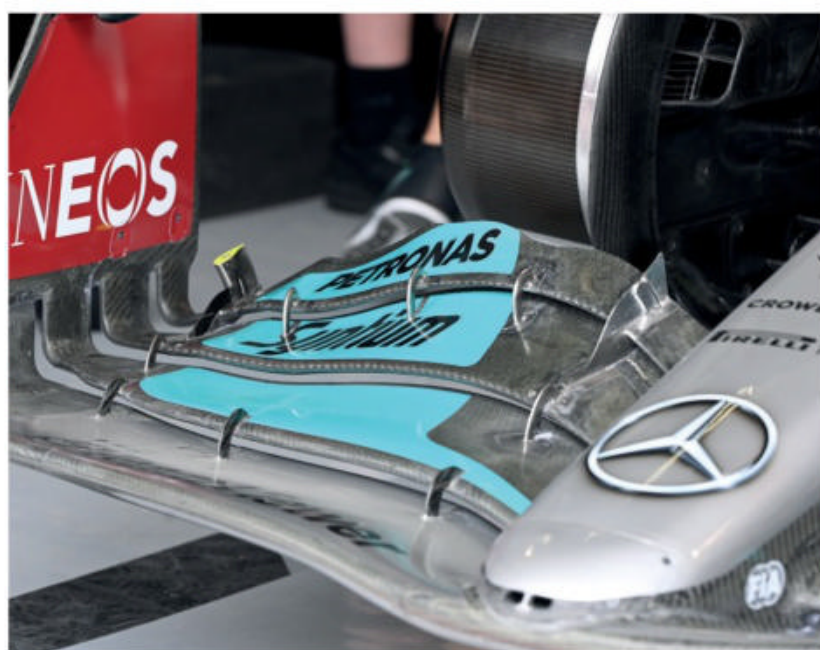
So far teams have, broadly speaking, taken two different design approaches to achieving a similar end. Mercedes, Ferrari and AlphaTauri feature a nose tip which mounts directly across its surface

REDUCING WAKE TURBULENCE IS ONE OF THE FOCAL POINTS OF F1'S NEW RULES, WHICH MANDATE SIMPLIFIED FRONT AND REAR WINGS

to the lower wing element, although each one is differently shaped at the leading edge. Red Bull, McLaren, Alpine, Aston Martin, Alfa Romeo, Williams and Haas also have tremendous variations in shape but retain some sort of slot gap where the

Teams are mounting front wings higher and shaping their undersides to optimise airflow into the underbody venturi, which produces the majority of the car's downforce. Haas (far left) and Alpine (far right) mount the nose to the second

element to allow a full-width gap, AlphaTauri and Mercedes mount it to the leading wing element, shaping the underside of the nose to optimise flow. Winglets on the inside of the brakes (below) aim to tidy the flow around the front wheels



nose tip mounts to the wing.

Since the function of the wing is to create a low-pressure area below and a high-pressure area above, air flows at high speed through these slot gaps into the low-pressure area. Its speed and direction of travel afterwards depends on the shape of the lower surface of the nose, and the depth and profile of the wing elements. Since airflow tends to follow a surface, it's important these surfaces are beneficial. There is a balance to be struck between the size and number of the slot gaps and the profile of the wing elements, because the airflow can stall if the undersurface is too aggressively cambered. The location of the front suspension elements also plays a role, which is likely why Red Bull and McLaren have adopted a pullrod setup which enables them to package the springs and dampers in a way which produces a better flow structure under the nose.

While the entire grid has chosen to use the maximum permitted four planes, there's a huge variation in shapes – in the overall 'pointiness' when seen in plan view as well as the angle of attack and horizontal

curvature. That's because the designers are still learning how best to balance the requirements of the front wing: generating downforce to maintain the aero balance of the car, while setting up flow structures which work in harmony with other new aerodynamic features further along the car – on top as well as below. Here the compromise is that by raising the nose to provide a clean flow to the underbody, they reduce the downforce it can generate – and that has to be reclaimed elsewhere, typically by loading the outboard elements more heavily, which has implications for flow around the tyres. Hence several teams are placing and shaping their flap adjusters to generate vortices which may help with that.

Teams are using structural props between front-wing elements, as well as the flap adjusters, to help steer air around the front wheels



TEA TRAY FOR TWO

AT LAUNCH THE

Aston Martin AMR22 and Ferrari F1-75 featured an interesting 'double tea tray' configuration at the leading edge of the underfloor. Like Mercedes' 'mirror wing', albeit less controversially, this wasn't anticipated by the rulemakers.

Using the leading edge of the floor to influence airflow both under the floor and around the sidepods is nothing new. What has changed with the latest generation of car is that the floor is necessarily a different shape, now that it accommodates a shaped underbody tunnel on each side, within a much shorter wheelbase than before (the maximum of 3600mm is shorter than that of any car on last year's grid).

The leading edge of the floor now plays a role in conditioning the airflow into the venturi, thereby increasing the loading they can produce. But there is only so much air that can occupy these tunnels at any given moment. There is potential elsewhere on the car to augment the work of the diffuser (where the tunnels exit) in drawing flow through. A faster exit means greater overall flow and more suction produced beneath the car.

Both Aston and Ferrari have a similar sidepod philosophy with an aggressive undercut at the sides. The second element of the 'tea tray' helps to encourage air into separate flows, with a proportion feeding into the venturi while the rest flows round the sidepod undercut and across the top of the floor, where it works together with the new rear beam wing to energise the flow coming out of the diffuser. Previously bargeboards would have conditioned the flow around the sidepods but these have now been banned. ▶



Here comes the mirror man

A typically Formula 1 kerfuffle erupted when Mercedes unveiled its revised W13 featuring 'size zero' sidepods, and with its mandatory side-impact beams exposed and shaped to give an aerodynamic profile – while also serving as mounts for the rear-view mirrors.

Whether the concept works or not is yet to be seen, but it managed to confound those who had shaped the new regulations while infuriating rivals.

"There's no doubt," said F1's managing director of motorsports Ross Brawn. "The Mercedes concept we didn't anticipate, it's a very extreme interpretation of the regulations."

Red Bull team principal Christian Horner immediately declared the mirror mounting illegal, only to row back on this. Team PRs initially claimed he'd said no such thing, before issuing a partial retraction... since it emerged Horner had indeed used that phrasing, he just appeared to be unclear whether he was

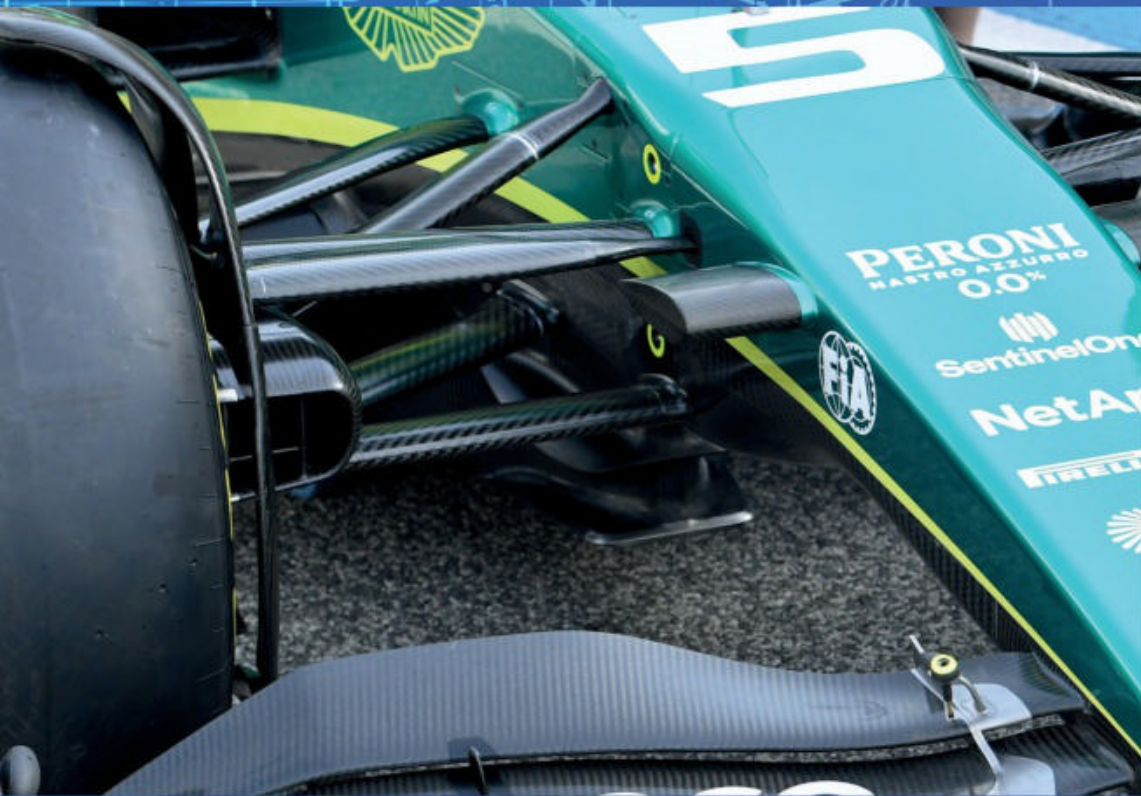
speaking on the record.

The confusion – from the regulatory standpoint at least – arises from a get-out clause in the rules. The mirrors are not classified as bodywork. According to article 3.2.2 of the technical regulations, the aerodynamic influence of any such item "must be incidental to its main function".

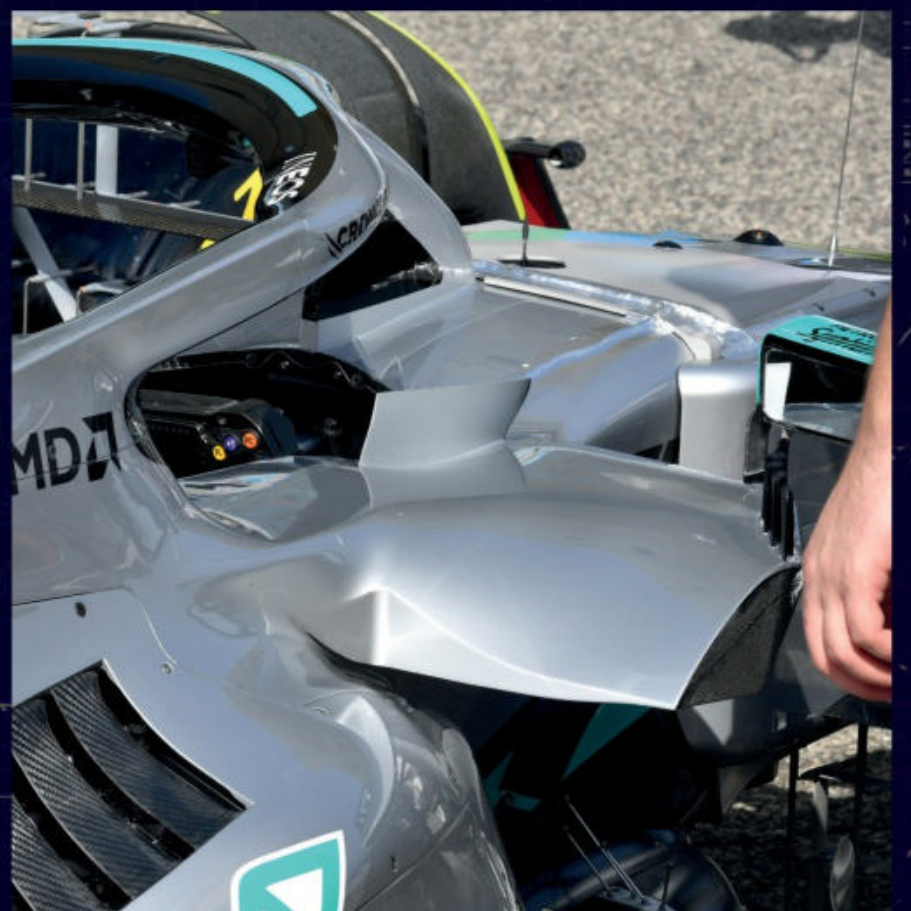
The rules go further, saying, "Any design which aims to maximise such an aerodynamic influence is prohibited."

But the rules permit teams to declare certain items of bodywork as a "mirror stay", which excuses it from the aerodynamic proviso. All it has to do is obey certain conditions relating to size and shape, hence Mercedes was allowed by the FIA to pursue the design.

It's likely this loophole will be closed in the near future, since Formula 1's new governance structure allows for changes in the technical regulations provided F1, the FIA and eight out of 10 teams agree.



Another example of an unforeseen response to the new rules was Ferrari and Aston Martin introducing a double 'tea tray' to help separate the airflows into the venturi and around the sidepods



PICTURES: STEVEN TEE; MARK SUTTON

COOLING OFF

THE NEW FLOORS have prompted a massive rethink of the cars' cooling architecture, since a proportion of the space formerly occupied by radiators and such is now taken up by a portion of the underbody venturi. While cooling is a basic functional requirement, it's always involved a trade-off with aerodynamics: the size and shape of the radiators, and the intakes which feed them, need to be minimised to reduce drag.

When F1 adopted the 'wide body' formula in 2017, teams continued to minimise bodywork in the sidepod area, using the crash structures and floor edges to comply with minimum width regulations. During this time the floor became even more important as a means of managing airflow around the huge rear tyres. Fast, consistent flow across the floor can help pull air through the diffuser as it flows off the back of the car, especially now the rear wings have a lower beam. The simpler front wings and the removal of the bargeboards has also fed fresh thinking in this area, although it's far too early to say whose approach is right – the turbulent wake from the front wheels is notoriously difficult to simulate.

As with the front wings, the teams have moved in broadly two directions with the cooling architecture to manage airflow around the sidepods. There are those who

have maintained the fairly traditional profile which resembles a teardrop when viewed from above, while others, such as Ferrari and Aston Martin, have gone for elongated rear decks with substantial undercuts achieved by mounting the radiators horizontally. Red Bull's approach is a kind of combination of the two, though its inlets are very unusual. Mercedes has adopted a minimalist take on the teardrop profile with aggressively slim sidepods which appear to use the Coanda effect – the tendency of an airflow to follow a curved surface, previously used to great effect on the exhaust-blown diffusers of 2012 – to achieve at least some of the cooling.

These different concepts indicate the many trade-offs to be made. Ferrari and Aston Martin are clearly trying to maintain separation between the hot, low-energy air shed by the radiators and the high-energy air channelled around the undercut and over the top of the rear floor, where it can work with the beam wing to pull air through the diffuser. This approach suggests the beam wings on the AMR22 and F1-75 are configured to have a strong influence on the diffuser; steering hot air away will avoid interfering with this process, but at a potential cost to the performance of the top of the rear wing. Both cars feature an abundance of louvres on the upper surfaces of the

sidepods but use different approaches to managing the hot air: Ferrari's louvres play across a scalloped top surface whose raised, rounded edges are clearly designed to prevent airflow spilling over the sides, instead guiding it back towards the centreline and the exhaust area.

Another penalty is that mounting the radiators higher raises the car's centre of gravity, which affects its agility. Teams which have retained a more conventional approach to radiator location (that is, canted forwards within the sidepod) are using various tactics to achieve the same effect as a large sidepod undercut while mitigating the centre-of-gravity penalty. Mercedes has gone the other way; at the second test it unveiled a radically revised W13 with different cooling architecture from the one seen in Barcelona.

To enable the sidepods to have a minimal profile, the W13's radiators have been repackaged behind the driver's shoulders and the enlarged airbox now partially feeds a saddle-style cooling system as well as directing air into the engine. The bodywork in this area is now bulkier than before, indicating that Mercedes felt the trade-off in terms of higher centre of gravity was acceptable in the context of the potential gains from the new sidepod design. Legality is achieved by using the mandatory side-impact bars as mirror mounts, much to the chagrin of some rivals (see sidebar). Mercedes is also clearly trying to use the Coanda effect to accelerate the airflow across the top of the floor, using a combination of a vent on the lower part of the sidepod with a bulge on the floor.

Williams is also looking to employ the Coanda effect on its sidepods, which have a steep downward slope behind a conventionally located radiator. The team tested a slot on the upper surface which enables some of the airflow through the main inlet to be directed straight out,

Sidepod divergence



ASTON MARTIN

FERRARI



HAAS





Airflow over the top of the floor can be used in combination with the rear beam wing to assist the diffuser in pulling air through the underbody venturi. To achieve that, teams have rethought and repackaged their cooling architecture to allow for cut-away sidepods

where it accelerates down the back of the sidepod and across the top of the floor. It shows Williams was thinking along similar lines to Mercedes, though not quite so extreme: the radiators aren't big enough to fulfil the car's complete cooling needs, and there are more behind the driver, located in a bulge beneath the red chevrons on the engine cover. These vent through a cavity by the exhaust pipe.

Red Bull cools its RB18 via a small set of

gills on each side, with most of the radiator outflow exiting just ahead of the rear suspension legs. It has packaged as much of the cooling architecture as possible amidships, in a sort of compromise position between the teardrop shape and the Ferrari/Aston Martin-style high deck. Nevertheless, it has achieved a significant undercut around the sidepods, particularly at the front, where the distinctive air inlet profile performs a similar function to the

leading edge of the front wing. On the final day of the Bahrain test Red Bull rolled out an even more tightly packaged sidepod design, with an enlarged undercut and a pronounced downward-sloping crease along the side. Where Red Bull's philosophy differs from that of Ferrari and Aston Martin is that the RB18's flanks slope downwards at the rear so the airflows converge at the floor, just ahead of the beam wing. ▶



MCLAREN

MERCEDES



RED BULL



FLOORED THINKING



The underbody venturi have forced teams to rethink their cooling architecture. Red Bull not only has an aggressive sidepod undercut, it is clearly using the entrance to the venturi to recreate the effect of the now-banned barge boards



IN THE COMING MONTHS, the teams will refine their understanding of how their cars work. All appeared to be taken by surprise at the extent of the porpoising effect when running for the first time: Alfa Romeo is understood to have broken a floor during its shakedown, while Lance Stroll declared the Aston Martin almost impossible to drive on its post-launch filming day.

Raising the rear ride height is one 'quick fix', but a crude one which compromises the effectiveness of the underbody aerodynamics. Ultimately the best solutions will come through refining the quality of the airflow into the venturi and optimising the speed of its exit through the diffuser in a way that is predictable and manageable. At the time of writing, it appears the teams with the peakiest downforce are suffering most. It's highly likely in-season development will target the floor edges as a means of finding aero gains and dialling out the porpoising effect. Mercedes and Ferrari have gone to the extent of fitting metal braces to prevent their floors flexing ahead of the rear wheels.


Since the underside of the car is a low-pressure area, air will naturally be drawn in from the sides while the car is in motion. But only a certain volume of air can pass through the venturi at any given time. Air entering from the sides is travelling slower while taking up some of that volume, so it slows down the overall airspeed within the venturi, reducing the downforce produced.

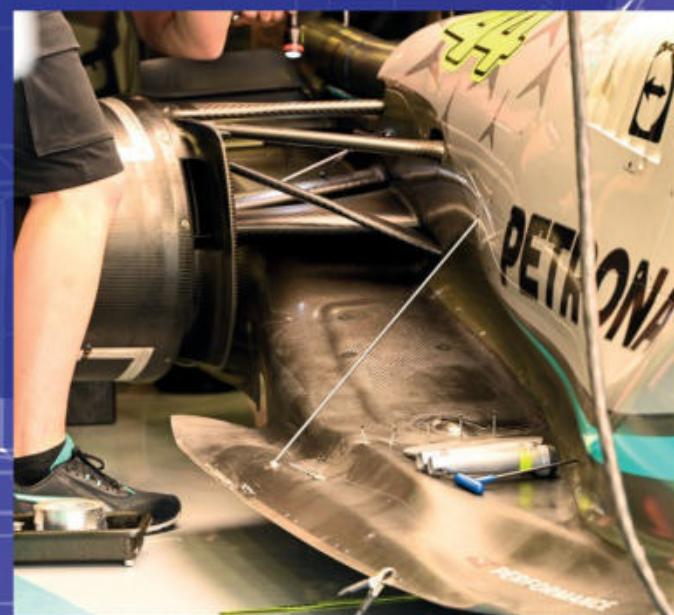
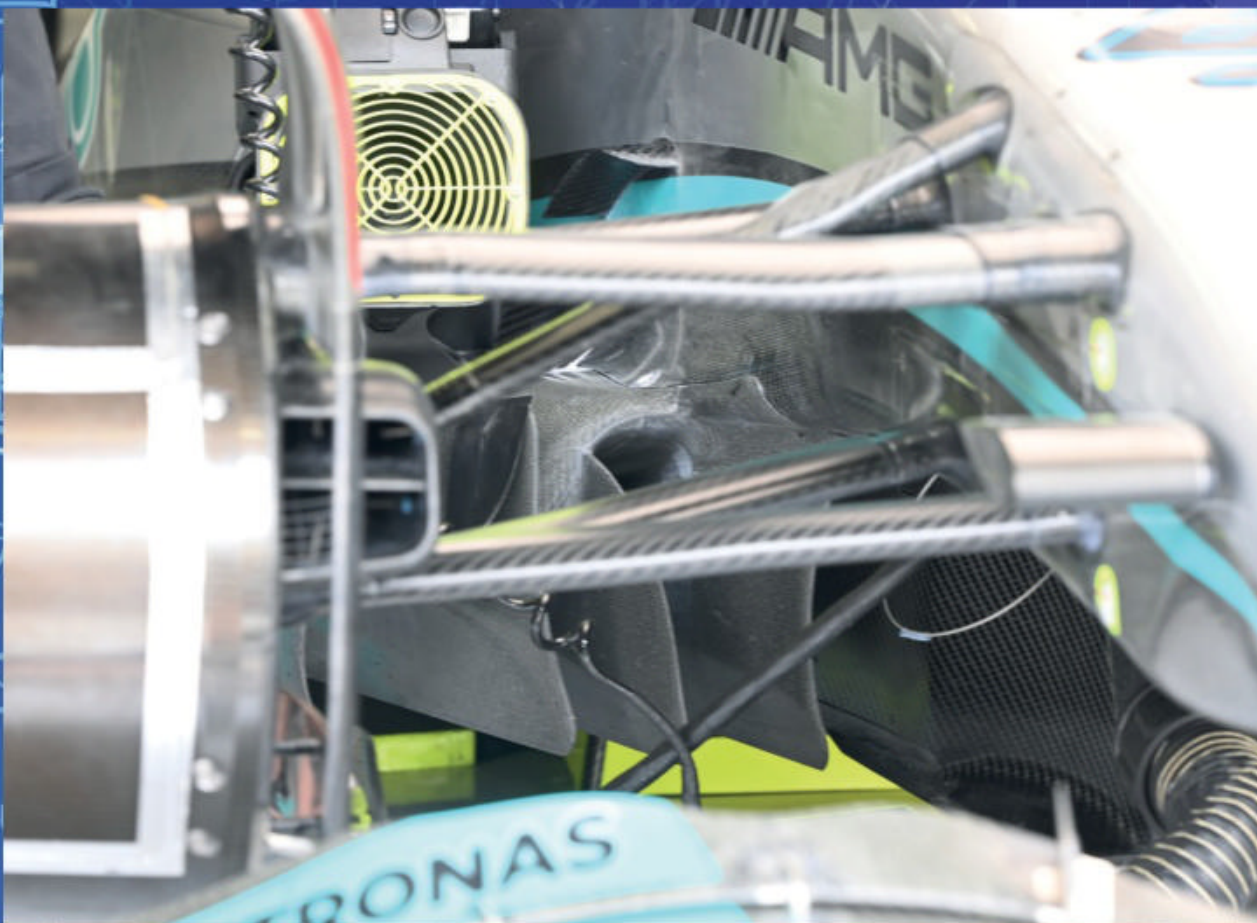
During the heyday of ground-effect aero in the late 1970s and early '80s, teams used brushes or skirts to reduce the amount of air entering from the sides and seal the underfloor. That was both agricultural and dangerous. In the modern era, teams try to recreate this effect using aerodynamic trickery, shaping the sides of the floor

Mercedes has evaluated different venturi channel entrances (below) as well as various configurations of floor to tune underbody airflow. It has also fitted a metal stay to prevent the floor from flexing and creating instability

(either by cutting slots or moulding it in a waveform) to set up beneficial vortices which direct the flow elsewhere.

Presently there's great differentiation between the floor edges of various cars, though the aerodynamicists are all chasing the same effect: setting up vortices which help seal the underfloor and persuade ambient air to flow around the outside of the rear tyres, while not impeding the flow across the floor towards the beam wing. Some teams have moulded waveforms into the floor edges, others have cut slots; McLaren and Alfa Romeo have fitted small, horizontal 'edge wings' ahead of the rear tyres, mounted using round metal brackets which are aligned to influence the direction of the airflow.

The MCL36 was noticeably the least afflicted by porpoising through pre-season testing, possibly because McLaren appeared to be running it at higher rear ride heights. While that makes the car more comfortable for the drivers, it's not the route to a quick lap time: McLaren's performance in the season opener suggested that its rivals were benefitting from living with a certain amount of bouncing in order to access more downforce from the underfloor. 





MIKE KRACK

Aston Martin's new team principal joined from BMW Motorsport at the beginning of March... but in a previous job he helped bring Sebastian Vettel into Formula 1

CV

2022

Team principal,
Aston Martin F1

2018-2021

Head of race &
test engineering,
operations &
organisation, BMW

2016-18

Head of vehicle
performance &
simulation, BMW

2014-2016

Senior performance
engineer, BMW

2012-2014

Head of track
engineering
LMP1, Porsche

2010-2012

DTM chief
engineer, BMW

2010

Race engineer,
Hitech F3

2009-2010

Race engineer, Kolles
& Heinz Union F3

2005-2009

Chief engineer,
BMW Sauber F1

2003-2005

Race engineer,
Sauber F1

2001-2003

Data analysis
engineer, Sauber F1

1998-2001

Test engineer, BMW

You've got a mix of engineering and management in your background. What are your strengths as a manager?

Having been in engineering for a long time, not just in F1, it gives you a good overview about the KPIs [key performance indicators] needed for different categories. It's important, if you're in a technical management role, that you understand these KPIs, and what is important to be successful on the technical side. And I think my strength is not just in engineering, I bring people together, give them trust, enable them. This is not a five-minute job, because you can bring together very bright individuals and they don't work together.

In F1 we have a large headcount, and we all have to pull on the same side of the rope. So it's a matter of bringing them together, having the right spirit, and having the right attitude. My engineering background helps because it's something which enables you to really understand what's happening, to make sure you focus on the right areas.

What approach did you have to take to settle in such a large team?

I'd been here a couple of times before my official start. And when you see this huge new building being built, it is overwhelming, it has to be. You have to approach this in a humble way, firstly to understand how the team is working. We mustn't forget this is a great team. For all these years it has overperformed relative to its resources. It's important to find out strengths of the team, and where we can make it stronger. I have a lot of discussions with individuals, with team leaders and department leaders, to understand how it is operating. It would

be foolish to come here on the first day and try to turn everything upside down.

Teams have talked about five-year plans before and they don't always work. What makes you think Aston Martin's will?

I agree five-year plans don't always deliver success. There can only be one winner. And you'll have disruptions, like now, where a new set of regulations come in and you have to re-adjust. Where we are a little bit different to some other teams is that we are not an OEM [large car manufacturer]. We have a lean management structure, can decide very quickly and are very flexible. This is an asset not every team has.

Obviously you cannot plan success. But you have to put everything in place to achieve it. With BMW, we also had a five-year plan at the time [when BMW bought Sauber in the mid-2000s]. And it was handled in a very corporate manner, which we must avoid at any cost here.

This is pretty much the team Otmar Szafnauer built – do you plan on bringing in people you know from your past?

I have no plan to bring new people. What I do have is a network from Porsche and

BMW and other places. It's important to get a feeling of which people could be an asset, and who will not, because as I said before, an OEM structure is a little bit different to an F1 team. Not everybody that works well in an OEM structure works well in an F1 team.

So from my network, there are a couple of people I think are very good. But it would be wrong to come here and say we need to bring these people in. It's more important to see what structure we have. If there is a need for a certain function or role, and I know someone from my network, then obviously I will make a suggestion. But I'm not going to push to get people exchanged for people I know. Not at all.

Your move to Aston Martin was described in the media as an old confidante of Sebastian Vettel joining the team. Is that an accurate reflection of your relationship with him?

Well, I don't know what happened in the background between Seb and the team about me. Maybe they asked him or maybe not. I hadn't spoken to him [about joining Aston Martin].

When he ran for the first time in Turkey in the BMW F1 car, I was his engineer. So this has obviously made a bit of a special link between him and me. We were speaking about that test just last week. I think we have a very good relationship. We haven't been in touch so much since I left F1. But when we met again it was good to catch up, we had a lot of stories to exchange, not only about racing, but also about family, about kids and stuff like that. We were very close in the past, and I have the feeling we'll be very close again now.

"WE MUSTN'T FORGET THIS IS A GREAT TEAM. FOR ALL THESE YEARS IT HAS OVERPERFORMED RELATIVE TO ITS RESOURCES"

THE FORGOTTEN MAN

Dropped by Red Bull after a fraught six-month stint in 2019, **Pierre Gasly** is now a proven race winner – so why hasn't the mothership called back for him yet?

WORDS OLEG KARPOV

PICTURES ALPHATAURI



Pause. A long one. Then Pierre Gasly breaks the silence with his best impression of a tired horse, blowing air through closed lips.

“Pffft. It’s... to be honest, not something I want to think about,” he tells *GP Racing*. “You know, at the end of the day I just do my job...”

The question was simple and obvious, though: does he think he’s done enough to convince the Red Bull bosses during the past two and half years that he deserves another chance?

Of course he does. He’s just fed up with talking about it.

“Yeah, I obviously want to be in a race-winning car,” he says. “They’ve got one. And then yeah, we’ll see, if we... what we do. But I don’t want to go into that thing. Every single week we discuss [that], OK, Red Bull and myself and blah, blah, blah, all these things.

“There will be conversations, there will be talks and then, yeah, we’ll see from there what we do.”

In the end, when it comes to a potential Red Bull return, it’s not Gasly’s opinion that’s the most important. And it seems like the bosses of his former team have a different view on who should be Max Verstappen’s team-mate. Whatever the results.

Gasly’s first podium in Brazil happened just three and a half months after his demotion, midway through 2019, to the team then known as Toro Rosso. But Red Bull team principal Christian Horner and ‘driver advisor’ Helmut Marko still decided that Alex Albon would get the nod alongside Max for 2020 – even though Albon’s results at Red Bull didn’t differ all that much from Gasly’s.

Pierre’s Monza win was one of the highlights of 2020, but that didn’t change Marko’s and Horner’s minds either. That Gasly would be kept at Toro Rosso/AlphaTauri was officially announced a month and a half later, after a Portugal race in which Pierre finished fifth and closed to within one point of Albon in the standings. And when Albon himself was dropped at



Gasly thinks he is ready for a frontline seat again, but is concentrating on doing the best he can at AlphaTauri

the end of the year, Red Bull opted to sign Sergio Pérez, its first F1 signing outside of its driver programme since taking Mark Webber from Williams for 2007.

The Mexican’s contract was extended immediately after the summer break last year, amid a disastrous spell in which Checo only managed four points in four races. This was followed by Gasly’s outburst in a *Canal Plus* interview: “At Zandvoort he [Pérez] got knocked out in Q1 and finished eighth and a lap behind his team-mate and he was voted best driver of the grand prix,” complained Gasly. “It’s true that, when you see some of the performances, there are some things that we do not really understand. But I’m not the one who makes the decisions. It’s sad and a little frustrating on the one hand, but on the other hand that’s how it is. There are things that are beyond my power.”

Red Bull and Pérez’s bromance was strengthened in Abu Dhabi, when Checo was credited with a significant role in helping Verstappen secure the title. In truth, though Pérez’s robust tactics caused Hamilton to lose around seven seconds, Max would still have been in Lewis’s pit window anyway. Perhaps, in addition to his experience, the Mexican’s willingness to accept a number two role and sacrifice his own race to benefit the team leader is what’s valued most by Red Bull.

Who knows whether Gasly, if given another chance, wouldn’t try to beat Max at all costs?

“I’m ready for a top seat,” says Pierre. “But obviously it’s Formula 1, you’ve always got to deliver and that’s the only thing that I’ll focus on.

“Obviously for this season everything is sorted, so there is no real point to keep thinking about it. But yeah, I think I feel ready, I’m in the best form of my career and, you know, I keep working, I keep pushing every single time and always keeping in mind how to do even better every single year.

“But, ultimately, I think last year we showed... we were the first one after the top four teams, and it was a very good year with the car that we had.

“I feel good. I mean, I feel better than any other year. We’re coming from ▶



After his first win in 2020 and an impressive 2021, Gasly could be hard pushed to have a better season this year



“

I KIND OF SEE MYSELF LIKE A GOOD, VERY GOOD RED WINE THAT KEEPS GETTING BETTER YEAR AFTER YEAR. I THINK IT'S A SPORT WHERE YOU DON'T PRACTICE A LOT, IF YOU COMPARE WITH BASKETBALL, TENNIS, FOOTBALL. THESE GUYS PRACTICE EVERY SINGLE DAY

”

a super-strong 2021 with the team. Great work, very good consistency, we showed really good performance.”

Gasly's results last year were remarkable indeed. He scored 110 points, and finished the season behind only Mercedes, Red Bull, Ferrari and McLaren drivers in the standings. He was even more impressive in qualifying, making the top six on Saturday on 16 occasions.

Pérez's experience may be a factor for Red Bull, but Gasly isn't a junior driver any more either. He's set to take part in his 100th grand prix in August, at Spa.

“Objectively, I think it's a sport where you...” Pierre pauses again,

trying to conjure a good analogy.

“I kind of see myself like a good, very good red wine that keeps getting better year after year,” he laughs. “I think it's a sport where you don't practice a lot, if you compare with basketball, tennis, football. These guys practice every single day.

“So, I think experience does make a pretty big difference in the sport, race after race facing challenging situations, a couple of problems, trying to find solutions, how to make the best out of every situation, I think this just makes you more complete as a driver.

“The past few years have been really good, but I'm really confident that [I will] be able to show even better things in the future.”

Gasly is the poster boy for AlphaTauri boss Franz Tost's theory that a driver needs to spend at least three years in F1 before he can show his real worth.

“That's the typical example, yes,” Tost tells *GP Racing*. “We all know his history. You know, after one year they took him to Red Bull and this was too early. Then he came back to us.

“And he recovered fast, then he was very successful. And I hope that ▶





he can continue this. I'm convinced that he can do this, if the team provides [him] with a good car.

"It was a continuous improvement. In Formula 1 it's rarely one click, it's always that the driver improves in all the different areas, in understanding the car, understanding the technique, understanding the team, understanding the competitors, and understanding the tyres.

"All these factors are very important for the performance, and you can only improve the performance if you understand all these different topics. And Pierre is doing this in a very good way."

Gasly has already stood on the podium in AlphaTauri colours, won a race for the team – perhaps only a pole is missing, but the chances of the Faenza team building a pole-capable car any time soon are low.

Does he still have targets with AlphaTauri? After all, whatever happens, Gasly is contractually tied to Red Bull until the end of 2023, and is seemingly destined to stay at Faenza at least until this deal expires.

"Ah, I would really like to bring this team the fifth place in the team championship," Gasly says. "It will personally mean a lot to be able to do it. I think last year we had the opportunity and the chance, but we missed by



Gasly, a "slightly fashionable Frenchman", is an undoubted asset to AlphaTauri, but he wants another chance to prove himself at the very highest level



a few points. Hopefully this year, you know, also Yuki [Tsunoda] is now a bit more experienced, I think we can be a pretty strong line-up, but ultimately the car is gonna make the difference.”

Whatever the case, Pierre now is the team’s main asset. He’s rapid but also experienced, something Tost values even more. In the history of F1’s second Red Bull team, there has only been one driver with a similar level of experience, Daniil Kvyat, also someone demoted from Red Bull. But the Russian, unlike Gasly, never did become a team leader there.

“Daniil was maybe a little bit more aggressive to himself, or let me say it in this way, a little bit more upset,” says Tost. “He wanted to show immediately that this movement [from Red Bull back to Toro Rosso] is unjustified. Pierre accepted it more and then was more concentrated on the sportive side. Of course, he was disappointed. But, at the end, he accepted and he got the best out of this situation.”

Naturally Tost wants to retain Gasly’s services for AlphaTauri, even though it’s rare for a driver to occupy a seat at Red Bull’s junior team for more than three seasons.

“It’s very important, because he is the leader of the team,” Tost says. “It’s also important for Yuki, because Yuki can learn a lot from Pierre. And therefore, for us, it’s important we can keep him.”

Helmut Marko also likes the idea of keeping Gasly at AlphaTauri. A “slightly fashionable Frenchman”, as he once put it, is an “ideal ambassador” for the clothing brand that gives the team its name. And it’s difficult to argue with this assessment.

Gasly himself would perhaps be happy to trade being “fashionable” for a chance to drive for the top team again. But that’s just part of the Gasly package – as are those nightmarish six months with Red Bull, without which his career would’ve looked completely different.

“When I came, it was everything amazing,” he says. “Then in six months everybody is questioning everything, that all of a sudden you forget how to drive. And then six months later I’m getting a podium with an AlphaTauri [which was Toro Rosso at the time].

“For sure, there was a big hit, you know, when I was in Red Bull, which damaged a lot and took a lot of time to kind of rebuild the image and get the credits for what I’ve achieved after that.

“Yeah, now probably sometimes people underestimate how hard it is in the midfield car to always make an impression. You know, I fought against Ferrari, who had probably three times the budget that we had last year, teams like McLaren with a lot of experience. So I understand that for people it’s not always easy to realise all these differences.

“Long-term I believe I know what I can achieve in this sport, I know what

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LAST YEAR**”



I want to achieve. It’s all a question of time, and I’m focusing on my mission to achieve my goal.


“To me every single day is an opportunity to show something. I know, every single day I want to be the best Pierre I can. It’s not only on one special event or one specific session. I put a lot of pressure on myself to be excellent every single time I’m out there and whether it’s on or off the track. And that’s my mentality.”

The aforementioned Pérez has had a career that can serve as a reference point for Gasly. After an all-around weak season with McLaren in 2013, Checo spent seven years at Force India/Racing Point – where his ability to take whatever points the car’s performance put on the table did ultimately give him a path back to a top team.

“Honestly, every story is different,” says Gasly when offered up this comparison, “and I’m not really looking at anyone else. I’m just looking at myself. And telling myself I’m doing everything that I can that I’ve got in my hands to make the best out of this career in F1.

“I’m still young, I’m only 26. Obviously I’ve seen a lot in F1

already. But, yeah, staying here for the next 10 years, that’s the minimum I want to do. There’s a lot to achieve. I think it’s been great [so far], especially the past three years. But I know the best part is yet to come.”

Who knows, maybe the Red Bull bosses also see Gasly through similar optics – and are just waiting until there’s a little bit more dust on that bottle of fine red wine before they take it off the shelf? 

A NEW THE HISTORY OF BRABHAM FORCE PART 1: 1946-65 RISES

Built on hard-won lessons with home-built specials on the other side of the world, the first incarnation of the Brabham marque was, like its founder, Aussie grit personified

WORDS DAMIEN SMITH

PICTURES





DAILY EXPRESS

Two ages of Brabham: the first resplendent in green and gold, spawned on a solid backbone of Aussie grit imbued by its tough-nut twin founders; the second marked by the chiselled, strikingly original and ceaselessly ambitious creations of its visionary designer, matched perfectly by the pin-sharp presentation demanded by the softly-spoken force who not only reinvented this team but eventually the whole landscape within which it existed. Jack

Brabham and Ron Tauranac, Gordon Murray and Bernie Ecclestone: starkly different men in just about every respect, yet forever conjoined in a shared ambition to achieve perfection. Brabham was always a broad church and, 30 years after its final grand prix, still shines in its absence as one of the great powerhouses of Formula 1 motor racing.

Less flashy than Team Lotus (and let's face it, less successful too), Brabham was left trailing in the wake of rival F1 cornerstones Williams and McLaren as the decades rolled by. The numbers leave it joint seventh with Renault in the list of race-winning constructors, on 35 grand prix victories, plus 120 podiums and 40 pole positions. Long outlasting Cooper from which it took such inspiration and learning, Brabham withered before Tyrrell but ran for longer at the sharp end. Yet the numbers and truncated timeline that halted so abruptly in 1992 only tell a sliver of the story. It's the way Brabham went about F1, the way it won, and then eventually lost, that matters today. Then there's the drivers: Brabham himself, Dan Gurney, Denny Hulme, Jacky Ickx, Jochen Rindt, Carlos Reutemann, Carlos Pace, Niki Lauda, John Watson, Nelson Piquet, Riccardo Patrese, Elio de Angelis, Martin Brundle, Damon Hill... all and many more contributed to a tapestry rich in F1 folklore.

Jack Brabham's rise to the top in F1 was speedy and the key was forming a strong partnership with John Cooper



Brabham was formed under its trading name Motor Racing Developments Ltd in 1961, in the wake of its founder's historic twin consecutive world championships with Cooper in 1959-60. But to truly understand the foundations of the team and company, and where it came from, we must travel further back to the immediate post-war years when a tenacious young bloke was learning the hard-knock lessons that would one day chisel him into the finest, most successful F1 driver/engineer ever to grace a grid.

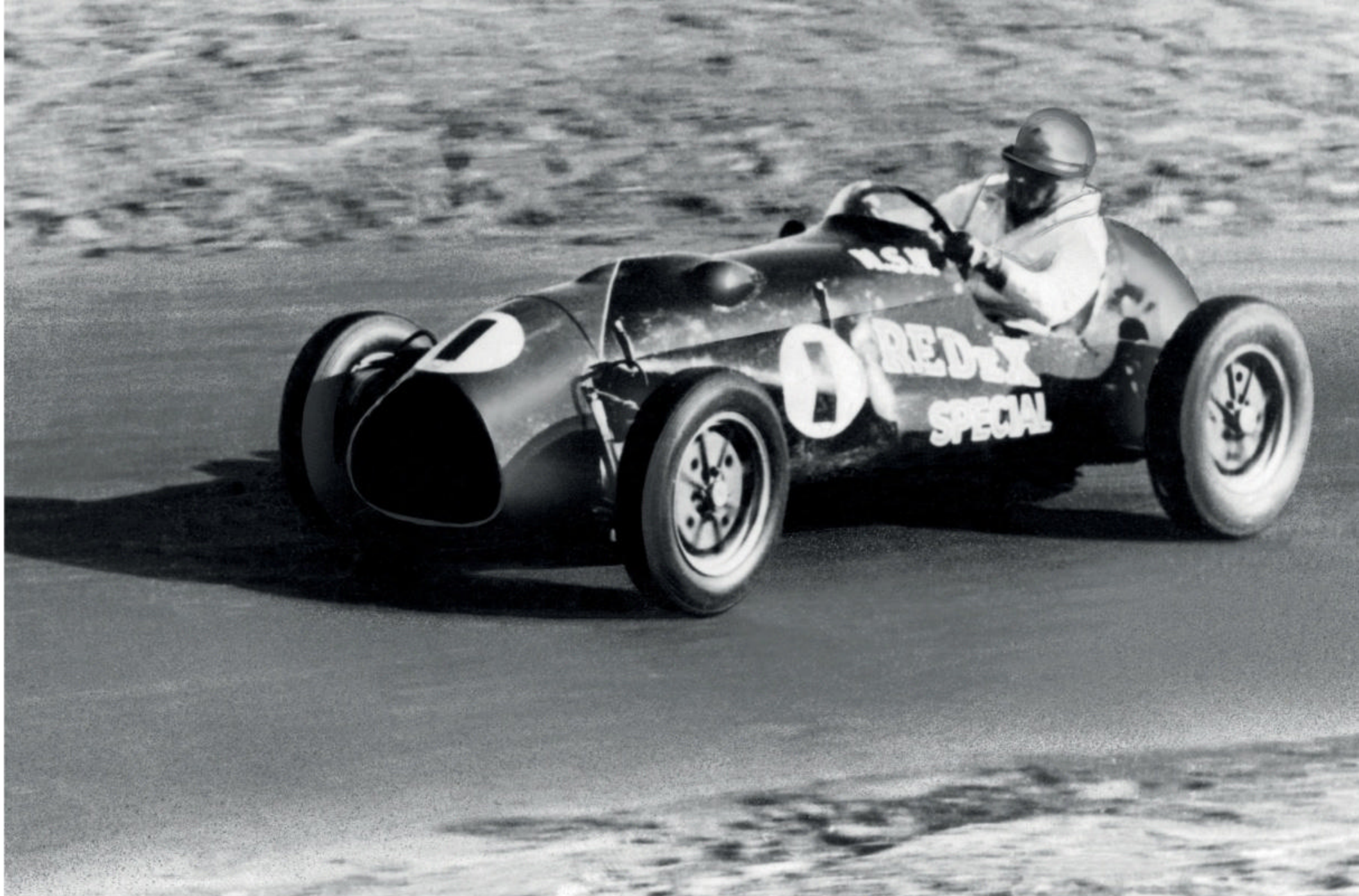
Born in Sydney in 1926, Jack Brabham left school at 15 to work in a garage and study engineering in the evenings. In 1944, amidst a war that still had plenty of horrors in store for the Pacific rim, he signed up with the Royal Australian Air Force. Naturally, Jack wanted to fly, but the RAAF already had plenty of pilots, so he settled for ground crew life working mainly on twin-engined Bristol Beaufighters.

Demobbed in 1946, Brabham set up his own motor repair business in Sydney and found himself drawn into the grit and thunder of midget 'speedcar' racing, run on ¼-mile cinder oval tracks. It would be the making of him, once he'd got used to the spray of dirt in his face.

The scent of competition drew the young engineer to Australia's hillclimb scene and among the home-built specials Jack found a natural, if equally taciturn, kindred spirit. Their first conversations in hillclimb paddocks were likely short and to the point, but Jack Brabham and Ron Tauranac formed a bond that would eventually change their lives and the shape of a far-distant F1 still in its nascent throes of existence on the other side of the world. But not yet. For Brabham, there was still a decade of adventure to grab.

Success on the hills, first in his midget and then in a JAP-engined Cooper (if you believe in destiny, it was right there from the start) led Jack to progress on to the circuits. In 1953 he bought a 2-litre, six-cylinder Cooper Bristol which, thanks to some brazen commercial support splashed along its nose, became known as The REDeX Special – and young Brabham tore up the Australian scene, proving a match for exotica imported from Europe. The Australian racing authority, CAMS, took a dim view of such gauche advertising and ordered Brabham to remove the stickers that only mimicked what was found on rasping roadsters at the Indy 500. So Jack stuck tape over the offending letters – only for it to 'accidentally' blow off at racing speed. Paying for his racing was half the battle. Why should this be an elite sport for gentlemen of significant means?

With hindsight, he'd later realise The REDeX Special would have thrived on the British tracks



When he progressed to circuit racing in Australia, Brabham used the REDeX Special to beat imported machinery from Europe

and was far better than the early machinery he'd lumber himself with once he made the journey. Brabham's eyes were first opened to what must have seemed an unlikely campaign 10,000 miles from home when he finished sixth at the 1954 New Zealand Grand Prix. Finding a home-from-home on that trip in a garage owned by a chap called McLaren – and whose likeable son Bruce was full of a youthful vim for racing – Brabham met bona fide international racers Tony Gaze,

The purchase of a Maserati 250F for 1956 wasn't a success. Brabham (car 30) qualified last for the British GP and was an early retirement

Peter Whitehead, Ken Wharton and Reg Parnell. A year later, back in NZ, a conversation with Dick Jeffrey, manager of Dunlop's racing division, and Dean Delamont, competitions manager of the RAC, proved pivotal. That year, 1955, Jack kissed goodbye to his wife Betty and young son Geoffrey and set sail for Britain. The REDeX was sold to Stan Jones, father of the other future Aussie F1 champion, Alan. That was Jack's first mistake. The second was buying what turned out to be a dog of a Cooper-Alta from Peter Whitehead. Still, Jack had arrived at the epicentre of motor racing.

Those early years in Britain were marked by disappointment and frustration. A Maserati 250F



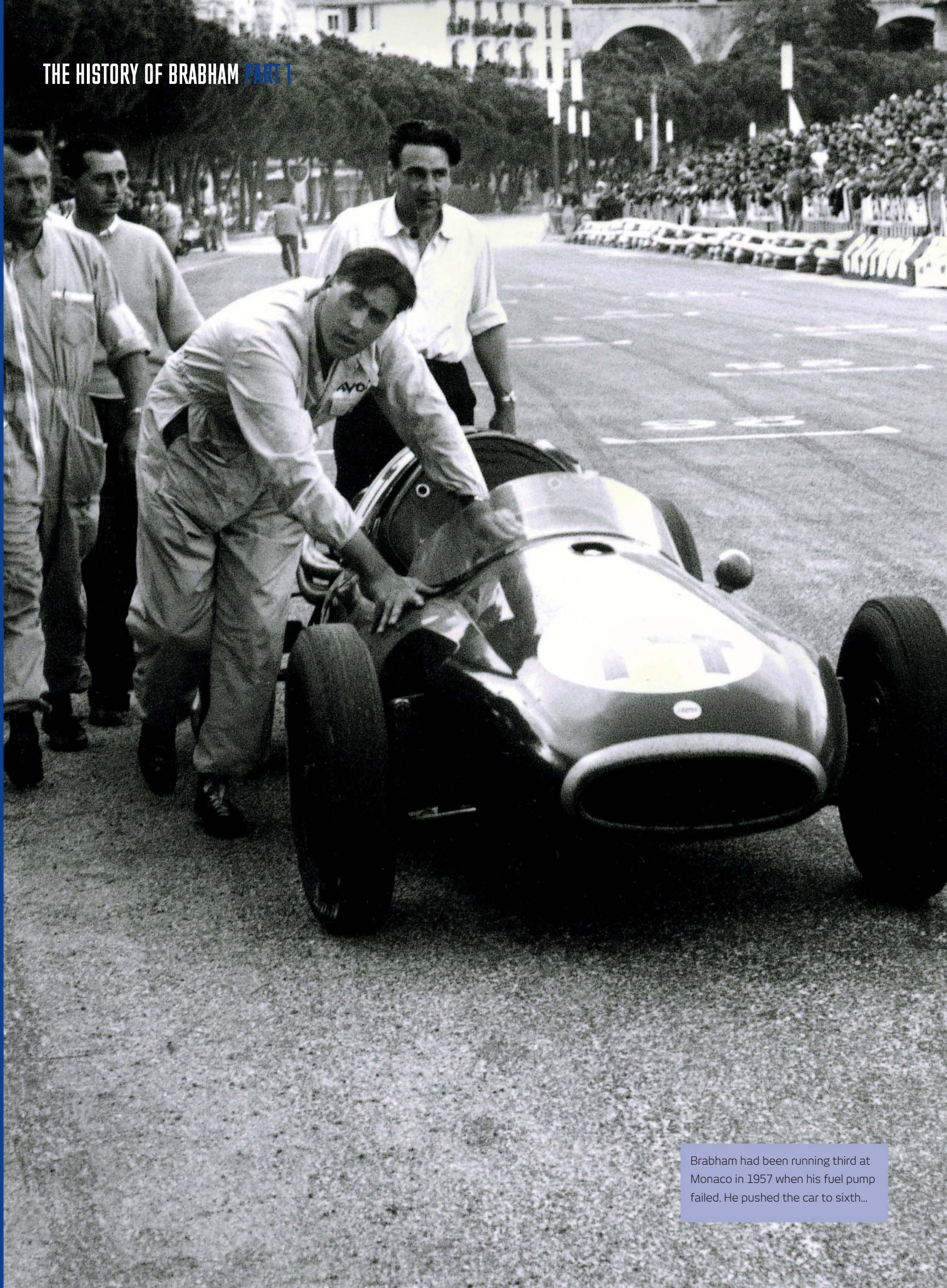
In 1955 Jack moved to Britain and built the car – based on a Bobtail sportscar – with which he made his world championship debut at Aintree



should have been a great buy for 1956, but turned into a disaster. But with the blessing of his new friend John Cooper, Jack built himself a 2-litre, six-cylinder Cooper Bristol on a Bobtail sportscar chassis and made his F1 world championship debut at Aintree in 1955. As Stirling Moss pipped Juan Manuel Fangio in a Mercedes 1-2, no one, not least Brabham himself, could have predicted the Aussie with the firm-set jaw and cockpit crouch of a dirt-track racer would hit the top of the motor racing world in four short years.

The breakthrough came in 1957 when he signed for Cooper as a works driver. In John he'd found another kindred spirit – even if Old Man ►

THE HISTORY OF BRABHAM PART 1



Brabham had been running third at Monaco in 1957 when his fuel pump failed. He pushed the car to sixth...

Charlie's penny-pinching could grate a little – and now Jack's dirt-under-the-nails nous born on the cinder tracks back home contributed to the rise of an unlikely F1 force. Jack Brabham was always more than just a racing driver – and design help from his pal back home didn't hurt either. Tauranac's quiet and distant influence on Cooper's success should not go unheralded.

It wasn't all plain sailing to the top, of course. Roy Salvadori was the one to suggest an enlarged Coventry Climax engine would make the funny little rear-engined Cooper F2 cars effective on the tighter circuits – namely Monaco. Privateer patron Rob Walker funded a 1.9-litre engine and Brabham set out to qualify – only for the brakes to lock on the way into Casino Square. He hit a telegraph pole that narrowly missed him when it came down on his engine cowling. But with the still-healthy engine fitted to Les Leston's car, Brabham shone in the race and ran third – until a fuel pump mounting failure led to him spluttering out. Doughty Jack got out and pushed (not for the last time) to claim sixth amid a rapturous reception. That put the Brabham name, and Cooper's, properly on the F1 map.

Jack always relished the experience he gained that season, sharing the track with the maestro

Brabham was signed as a works Cooper driver for 1957 and would stay with the team until 1962

DOUGHTY JACK GOT OUT AND PUSHED (NOT FOR THE LAST TIME) TO CLAIM SIXTH. THAT PUT THE BRABHAM NAME, AND COOPER'S, PROPERLY ON THE F1 MAP

Fangio and sampling Rouen, the Nürburgring and fearsome 17-mile Pescara. He was running in the top six when he ran out of fuel on the last lap at the great Italian road circuit, but as luck would have it rolled to a stop at a filling station. The enthusiastic owner topped him up with enough juice to make it home, seventh.

It's F1, but not as we know it.

By 1958, settled in a Dorking rental with Betty and Geoffrey, Brabham was really finding his groove, as was Cooper. The key was John and that 'flash 'arry' at Lotus, Colin Chapman, convincing Wally Hassan, chief engineer at Coventry Climax, and his boss Leonard Lee to 'stretch' their FPF engine to 2.2-litres. There was also what turned out to be a hugely significant, often overlooked, change in the F1 regulations that opened the doors to the funny little British cars changing the face of grand prix racing forever. Race distances were slashed from 310 miles (500km) to 186 miles (300km) and a ban was introduced on alcohol fuel brews in favour of 130-octane AvGas aviation gasoline. Now F1 cars needed less fuel and had better economy, meaning they could be smaller and lighter. Within the space of a year the glorious 250F would be a dinosaur.

While Stirling Moss and Rob Walker stole the limelight in Argentina by claiming Cooper's first win – and the first for a car being pushed rather than pulled – Brabham and the works pressed on with ever increasing potential. By 1959, Jack had settled his family and opened a garage business in Chessington. Powered by the new 2.5-litre Climax he won the Monaco GP (despite scorching pedals burning his feet) and conquered Aintree four years on from his first British GP, winning cleverly by changing his driving style to keep his worn tyres alive (just). From understeer he induced oversteer by chucking the little Cooper into the corners speedway-style. Yes, the dirt track days never left him. Then at season's ►



THE HISTORY OF BRABHAM PART 1

end, once more he got out to push to become world champion at Sebring, as the little lad from the NZ garage – by now his Cooper team-mate – zoomed past to become F1's then-youngest race winner. Bruce McLaren's own journey to F1 notability was also gathering a head of steam.

If 1959 had been a proper scrap, Brabham narrowly seeing off the great Moss and stylish Tony Brooks, 1960 was a walkover. But only because Jack recognised a gathering threat, galvanised Cooper into a devastatingly effective response and (literally) engineered his path to that second consecutive world title. The trigger was an early-season trip to Argentina where Innes Ireland in the boxy, box-fresh Lotus 18 gave the new champions a serious fright. On the flight back Brabham convinced John Cooper they had to go low – or go home. Designer Owen Maddock needed convincing when it came to change, but his T53 – better known as the Lowline – swept through the European season.

Moss conquered Monaco, stealing another breakthrough first, this time for Lotus. But

... when his Cooper ran out of fuel 400 yards from the uphill finish he was forced to push (again), this time to fourth and the world title



Brabham leads team-mate Bruce McLaren at Sebring in 1959. A win guaranteed a first world championship for the Australian but...

Brabham hit back at Zandvoort. Then came tragic Spa, where Moss and works Lotus driver Mike Taylor were severely injured in separate accidents, then the promising Chris Bristow and Alan Stacey were killed in the race. Winner Brabham had little to celebrate.

But racing rolls on, as it always does. Five consecutive victories gave Jack a barely contested title, in Moss's absence. It was Cooper at its zenith – and that was the trouble. Brabham knew it would never get better than this, and thoughts had started to stir.

Doubts accelerated during 1961 when the British teams found themselves briefly derailed by the new 1.5-litre engine regulations. Ferrari bit a shark-sized hole in the revolution with its proven V6 fitted to the twin-nostril 156. Increasingly frustrated, Brabham called on his old friend Tauranac to emigrate and join him in Surrey. Together they formed MRD, but wisely chose to name the cars Brabhams when journalist Jabby Crombac quietly pointed out what the initials suggested in French. *Merde?* That might have been a hard sell on the continent. And sales were what it was all about in the beginning.

It's important to remember MRD/Brabham was formed primarily as a builder of production racing cars, taking on Cooper at its own game – to the Old Man's consternation – and offering a far more robust alternative to Lotus. Tauranac always did prefer solid spaceframe structures over Chapman's aviation-inspired monocoques, and so did many racing drivers, both amateur and professional, in the early 1960s. First Formula Junior, then Formula 3 and Formula 2 offered successful, lucrative and valued arenas for the new Brabhams. But at the pinnacle the new team took time to find its feet, as Brabham quickly found himself written off by some as a 'has-been' while Jim Clark, John Surtees and Graham Hill hit their stride.

Brabham signed off for Cooper at the end ►



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THE HISTORY OF BRABHAM PART 1

of 1961, then started 1962 first in an MRD-run Lotus 21, then a Lotus 24 (which he hated). Soon his partner's comfortable BT3 – B for Brabham, T for Tauranac – was fully cooked. It handled a treat in first tests at Brands Hatch, but the Nürburgring debut told what would become a familiar story. The Climax V8 ran its bearings on its first lap (Jack never did like that engine), a spare was built up for qualifying while the race engine was repaired in Cologne, rushed back and fitted overnight – only for throttle linkage trouble to end the BT3's race. For all Brabham's hard-earned reputation for stoic racing cars on the production market, the early F1s were surprisingly brittle. Still, a fourth place next time out at Watkins Glen was a landmark: first world championship points for an F1 driver racing a car carrying his own name.

Signing Dan Gurney, formerly of Ferrari and Porsche, for 1963 was a statement of intent. The Californian was considered by Clark as his



Brabham/MRD was set up to produce customer racing cars, the first of which was in Formula Junior in 1961, in the hands of Gavin Youl




The first Brabham Formula 1 car, the BT3, appeared at the 1962 German GP at the Nürburgring, driven, of course, by Jack himself

GURNEY WAS THE PERFECT MUSE FOR BRABHAM TO HONE TAURANAC'S INCREASINGLY STYLISH F1 CREATIONS

closest rival on pace, and inspired huge respect in his new boss too. Across three seasons, Gurney was the perfect muse for Brabham to hone Tauranac's increasingly stylish F1 creations. Yet somehow over three seasons Gurney won just two world championship grands prix for Brabham – although that was two more than the boss. Remarkably, in the wake of his five on the trot in 1960, and while

he scored big wins such as the 1964 Aintree 200 and International Trophy at Silverstone, Jack didn't win a single points-scoring GP through the five-year 1.5-litre era.

Gurney's highlight was his French GP win in 1964. He should have won at Spa, dominating until he pitted for fuel with a couple of laps left – only to find bizarrely there was none available. But retribution followed at Rouen when Clark, who had inherited an unlikely win in Belgium, holed a piston in his Lotus. Gurney picked up the pieces to score Brabham's first world championship GP victory, and at season's end he added a second when a split oil line lost Clark not only the Mexican GP but also a second title.

But after a frustrating 1965, in which Gurney often drove beautifully without ultimate reward, Dan broke the news that he was leaving to take a leaf and build and race his own cars. His Eagle was ready to take flight as F1 returned to power with 3-litre engines in 1966. Bad timing on Dan's part: had he stayed, Gurney would likely have won the world championship for Brabham in the reset season. Instead, the boss – at 40 – was about to defy the has-been jibes. The team in green and gold was ready to hit its sweet spot. 

Dan Gurney joined Brabham for 1963 and, eventually, scored the marque's first world championship victory in the 1964 French GP





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WILLIAMS



FW19

The last car from
Grove to win a
world title

NOW
THAT
WAS
A
CAR

No. 107

WORDS
STUART COOLING
PICTURES
JAMES MANN



Almost 25 years have now passed since Williams last fielded a Formula 1 car worthy of winning a world championship. The sight of this team plying its trade at the tail of the field has become so commonplace that it's almost strange to think of a time when the launch of a new Williams was a baton-passing exercise from one great car to another. As Jacques Villeneuve and Heinz-Harald Frentzen unveiled the FW19 early in 1997, anything other than dominance of the season to come would have been faintly disappointing.

The roots of Williams' last championship-winning car ran deep. The team had got its design mojo back in 1995 after a 1994 season rocked by troubles with the car – by his own admission, design guru Adrian Newey fumbled the transition from active to passive suspension – and by the tragic death of Ayrton Senna. With FW16's aerodynamic instability problem solved, the Williams FW17, 18 and 19 followed an evolutionary path to greatness – albeit one overshadowed by the ongoing



legal ramifications of Senna's death.

Newey, though, had long since cleared his desk when the FW19 first turned a wheel. In the final months of the car's gestation he was theoretically serving his 'gardening leave' before joining McLaren. If that phrase conjures up images of bucolic solace, think again: while he did manage to move house, closer to the McLaren factory, and sketch out a few ideas on his drawing board at home, Newey spent the majority of that time preparing his defence against the manslaughter charges brought by Italian prosecutors against him, Patrick Head and Frank Williams in relation to Senna's accident. The trial, in the summer of 1997, would involve no less an eminence than former Ferrari chief engineer Mauro Forghieri appearing as the prosecution's star expert.

Neither could the early stages of the FW19's development be described as 'settled'. Newey had fought for a new contract giving him, among other privileges, a say in driver choice, only to return from an off-season holiday to find Frank and Patrick had signed Jacques Villeneuve in his absence.

**FORTUNATELY A BRIEF PERIOD OF
RELATIVE STABILITY IN THE RULES
MEANT THE FW19 COULD BE A NUANCED
EVOLUTION OF WHAT HAD GONE BEFORE**

WILLIAMS FW19 NOW THAT WAS A CAR

No.107

Later he would learn second-hand of Damon Hill's firing in favour of Frentzen, and it was this which tipped him in favour of the contractually fraught move to McLaren, prompting rancour with the Williams principals.

Fortunately a brief period of relative stability in the rules meant the FW19 could be a nuanced evolution of what had gone before. To accommodate Hill's taller frame and large feet, from 1995 on Williams cockpits reclined the driver further with the legs and feet resting higher, the better to raise the entire nose for aerodynamic gain. Switching from coil-over shocks at the front to torsion bars and raising the steering column freed up more room for the feet, and Villeneuve was among the first drivers to take advantage of this to adopt left-foot braking when he replaced McLaren-bound David Coulthard for 1996. Lowering the driver's head height was theoretically beneficial to the car's overall centre of gravity, as well as offering cleaner airflow to the rear wing – important given the higher cockpit sides mandated for safety reasons from 1996 onwards.

Pushing the driver into an even more reclined position was also an attempt to address an issue which had bedevilled aerodynamicists up and down the grid: turbulence caused by the driver's crash helmet disrupting the airflow into the engine, starving the inlet trumpets closest to the front. Fitting fairings to the helmets had little effect; Ferrari's drivers even tried canting their heads over while on the straight, an arrangement which was as sub-optimal as it sounds. During the 1996 season Newey would experiment with reshaping the driver's headrest to arch forward at the top, interacting with a fairing ▶





on the back of the helmet to behave as a single aerodynamic form. This worked, but only up to a point – at Hockenheim, where kerb-hopping was among the prerequisites for a quick lap time, repeated impacts caused the headrest to crack. A portion of the material then lifted on the straights, obstructing the airbox, and Hill was lucky to regain the lead and the victory when Gerhard Berger's engine blew.

For the FW19 Newey redrew the area around the airbox, inspired by a eureka moment he'd experienced while on holiday: looking out of the window during a flight from Barbados, he'd noted the shape of the engine air intake below the propeller and realised this was the solution to the headrest-induced turbulence. The new shape raised the air intake away from the headrest and featured a cut-out between the two elements.

Elsewhere the majority of the changes were structural, since cars now had to pass a rear-end crash test identical in terms of force to that undergone by the nose. There was an all-new

engine and gearbox to accommodate, too. In June 1996 Renault had announced it would be leaving F1 at the end of the following season. Its reasons for doing so have always been somewhat mysterious. Had it achieved all it had set out to achieve? Was it facing diminishing returns, in marketing terms, since victory was always expected of it? Or had Renault's recent privatisation signalled the end for high-spending motorsport programmes?

Whatever Renault's corporate reasons for ending this period of its involvement with F1, its engineers – led by Bernard Dudot – were determined to leave on a victorious note. The new RS9 V10 was smaller and 11kg lighter than its predecessor, with a slightly wider vee angle (71 degrees rather than 67) which lowered the car's centre of gravity. It could be mounted 27mm lower, enabling Williams to design a lower and more compact transverse gearbox. Tested well in advance in an interim FW18B chassis, the new engine would prove reliable throughout the 1997 season.

It would have to be, for Williams and Villeneuve contrived to





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WILLIAMS FW19

make very heavy weather of securing the world titles. That the FW19 was sizzingly quick over a single lap was in no doubt. At the season-opening Australian GP, Villeneuve was the only driver to go under the 1m30s mark during qualifying and only six other drivers posted a lap within three seconds of his time. While a red flag late in the session rendered this something of an outlier event, Villeneuve started from pole position at 10 of the season's 17 races.

"You could do a lap and get out of the car and think, 'Wow, that was amazing. That was special,'" said Villeneuve of the FW19. "You knew you had done a lap that nobody could get close to. It was a

car you had to respond to. It was like driving on ice but with a lot of grip. You were always on a knife edge but the edge with that car was so fine and if you could live on that edge it was great. But as the tyres got old in the race and you got a little bit 'out of the window' it was difficult to drive – and very difficult to drive in the wet."

Among the possible reasons for this was Newey's early adoption of the high-rake aerodynamic philosophy he would take to even greater extremes in later years at Red Bull. He began jacking up the rear ride height in the wind tunnel with the 1995 FW17, and pushed it further with that car's successor. The simulation tools were relatively primitive and there were concerns to overcome about centre of gravity and tyre degradation, which might account for why the car was at its quickest on fresh rubber and became tricky thereafter.

Villeneuve might have been on a different plane in qualifying for the season opener, but when the lights went out on race day

FOR THE FW19 NEWHEY
REDREW THE AREA AROUND
THE AIRBOX, INSPIRED BY
A EUREKA MOMENT HE'D
EXPERIENCED WHILE ON HOLIDAY





“IT WAS A CAR YOU HAD TO RESPOND TO. IT WAS LIKE DRIVING ON ICE BUT WITH A LOT OF GRIP. YOU WERE ALWAYS ON A KNIFE EDGE” **JACQUES VILLENEUVE**

he bogged down at the start and was sandwiched at the first corner between Eddie Irvine's Ferrari and Johnny Herbert's Sauber. That was the end of Villeneuve's race and, while he won in Brazil, Argentina, Spain and Britain, there were failures to finish in San Marino (gearbox), Monaco (crash damage) and Canada, where he shunted embarrassingly on lap two into the barrier which in future years would be nicknamed 'the Wall Of Champions'. Neither had team-mate Heinz-Harald Frentzen donned the ermine cloak of glory; one pole position, a single race win and two other points finishes were all he took from an underwhelming first half of the season.

As a result, when Villeneuve took a fortuitous victory in race

nine of 17, the British GP, Ferrari's Michael Schumacher led him by 47 points to 43 in the drivers' standings, and Ferrari held a three-point lead over Williams in the constructors' championship. So much for this being an interim year for the Scuderia, as a new technical team led by Ross Brawn took over from the departing John Barnard; it was Ferrari's most successful season since 1990. Schumacher ought to have won at Silverstone, since Villeneuve had been delayed by a sticky wheelnut at his first pitstop, but a mechanical failure pitched Schuey into retirement. Up until that point he'd won as many races as Villeneuve in the surprisingly competitive F310B.

There was a further setback in Germany as Villeneuve



NOW THAT WAS A CAR

No.107

WILLIAMS FW19

complained about a lack of straightline speed in his car – not good at the ‘old’ Hockenheim – and during qualifying switched to the spare FW19, set up for Frentzen. From ninth on the grid Jacques spun off trying to pass Jarno Trulli, while Schumacher finished second to Gerhard Berger’s Benetton. Jacques clawed back ground with victory in Hungary but toiled to fifth in the wet at Spa, where Schumacher won by nearly half a minute.

Victories in Austria and ‘Luxembourg’ (the Nürburgring adopting another flag for the weekend) brought Villeneuve back into the points lead before a controversial disqualification in Japan, for failing to slow for yellow flags during practice, dropped him a point behind Schumacher and set up a fascinating denouement at Jerez. There, Villeneuve qualified on pole but slipped behind Schumacher and Frentzen at the start, requiring the team to order HHH to let Jacques past. Schumacher led until lap 48 of the 69, at which point Villeneuve caught him and dived up the inside line at Turn 6, also known as Dry Sac. Rather too obviously Schumacher turned in on him, but the impact merely scarred the sidepod of the Williams while the Ferrari bounced into the gravel trap. Villeneuve’s pace tailed off, enabled both McLarens to pass him, but third was enough to win the championship.

Post-race accusations of collusion between McLaren and Williams were as nothing compared with the furore which embroiled Schumacher and Ferrari. While the stewards initially dismissed the collision as a racing incident, a subsequent disciplinary hearing resulted in Michael’s exclusion from the championship results. The three-point margin by which Jacques won the title vanished into the memory hole; history records Frentzen as the runner-up, by 39 points.

After this, his second season in F1, Villeneuve would achieve just four more podium finishes as his top-flight career slumped into a long tail of mediocrity. Much the same could be said of Williams: apart from brief resurgences with BMW power in the early 2000s, and Mercedes in the first seasons of the hybrid era, there has been little of merit to speak of as this once-great team drifted into F1’s hinterlands. 

RACE RECORD

Starts 34
Wins 8
Poles 11
Fastest laps 9
Podiums 7
Constructors’ championship points 123

SPECIFICATION

Chassis Carbonfibre monocoque
Suspension Double wishbones with torsion bars (front), double wishbones with pushrod-actuated coil springs/dampers (rear)
Engine 71-degree naturally aspirated Renault RS9 V10
Engine capacity 2997cc
Power 760bhp @ 16,000 rpm
Gearbox Six-speed semi-automatic
Brakes Carbone Industrie discs front and rear
Tyres Goodyear
Weight 600kg (including driver)
Notable drivers Jacques Villeneuve, Heinz-Harald Frentzen





A dramatic, high-contrast photograph showing a pitstop fire. A mechanic's blue racing suit is engulfed in intense orange and yellow flames. The suit has some white text on the sleeve, including "BENETTON". The fire is very bright and turbulent, filling the right side of the frame.

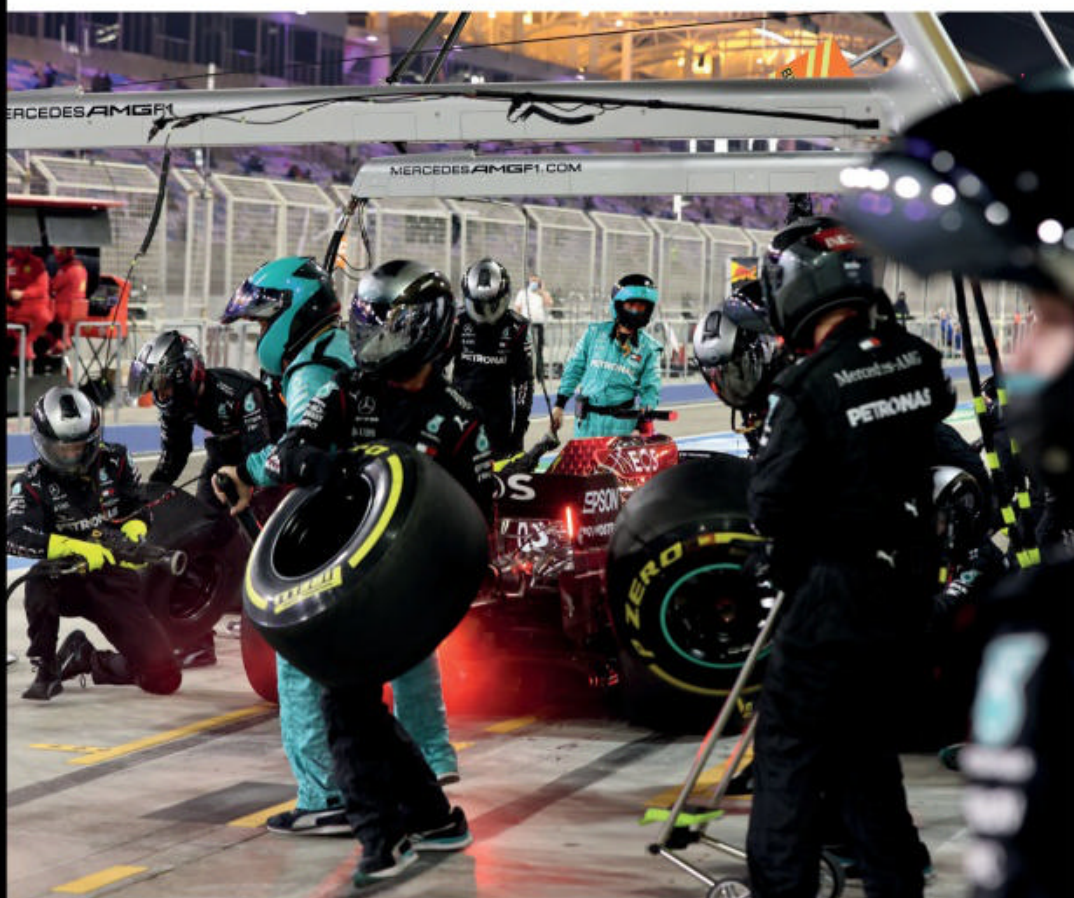
PITSTOPS

From the relaxed examples of the early days of F1, to today's high-speed, high-pressure and potentially race-winning versions, we take a look at pitstops

▼ *Probably the most famous of all pitstop images. At the 1994 German GP Steven Tee captured mechanic Paul Seaby engulfed in flames, caused by fuel escaping onto Jos Verstappen's hot Benetton. The fire was put out in seconds and Seaby suffered no permanent damage*



Ferrari mechanics change tyres on Niki Lauda's 312T ahead of the 1975 Italian GP. The Scuderia was one of the first teams to use pneumatic wheel guns, and the introduction of these impact wrenches contributed to a huge reduction in pitstop times



Even some of the best get it wrong. At the 2020 Sakhir GP Mercedes called in both leader George Russell (subbing for Lewis Hamilton) and Valtteri Bottas on lap 62, under a Safety Car. Tyres were mixed up and Russell was sent out on an illegal set



When pitstops became strategic in the 1980s and speed and repetition were crucial, teams realised that mechanics needed to be set waiting for the car. And so, very quickly, painted lines became de rigueur in pitlanes to enable drivers to stop on a mark



◀ Pitstops have been around since the start of F1, but were usually for refuelling in long races, or for new tyres due to the weather. In 1982 Brabham changed that when it introduced in-race fuelling and tyre changes for strategic reasons. It planned to stop for the first time at the British GP, but didn't to do so until three races later in Austria



Not all teams chose to run light and stop for fuel in the early races of 1983 but Williams was one that decided it would be beneficial. However, at the season-opening Brazilian GP, Keke Rosberg was forced to exit his Fw08C after a flash fire. He returned to the race, but was disqualified for a push start



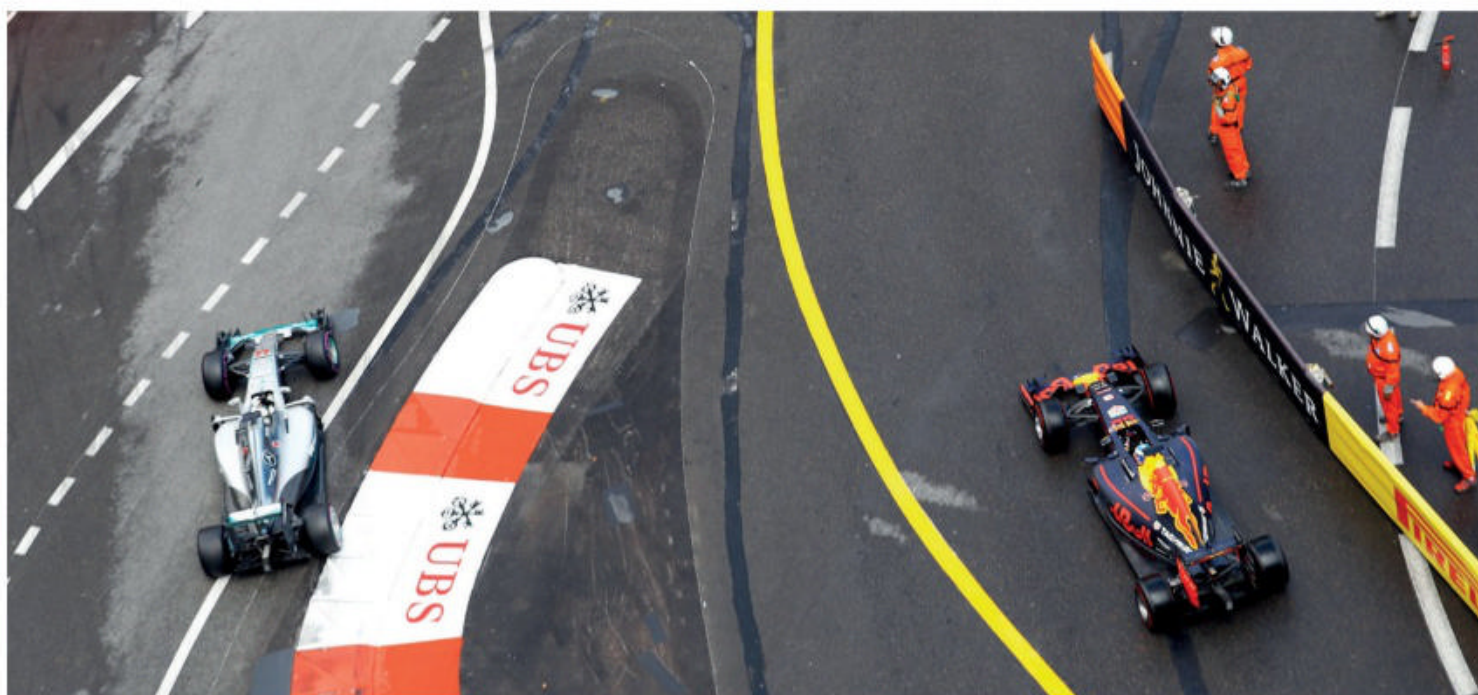


▲ Romain Grosjean made a routine stop for new tyres in the first practice session of the 2019 British GP. However, he then embarrassingly managed to spin exiting the Silverstone pitlane, damaging his front wing in the process. "Cold tyres, and when I removed the pitlane limiter, the car spun," admitted the Frenchman

▶ When Lotus, BRM and the works Cooper team boycotted the 1960 Italian GP because it was using the Monza banking, the race became a Ferrari walkover, which allowed for more leisurely stops. This was one of Richie Ginther's visits, for a drink and tyres. He finished nearly two and a half minutes behind team-mate Phil Hill, a lap clear of Willy Mairesse in third and two laps ahead of the first non-Ferrari



▶ A good pitstop can win a race, but a bad one can throw away a victory. At the 2016 Monaco GP Daniel Ricciardo was leading when he pitted on lap 32, covering Lewis Hamilton's stop a lap earlier. Red Bull didn't have the tyres ready and his stop took over nine seconds longer than Hamilton's. And that was enough to allow Lewis to sneak into the lead and claim the win

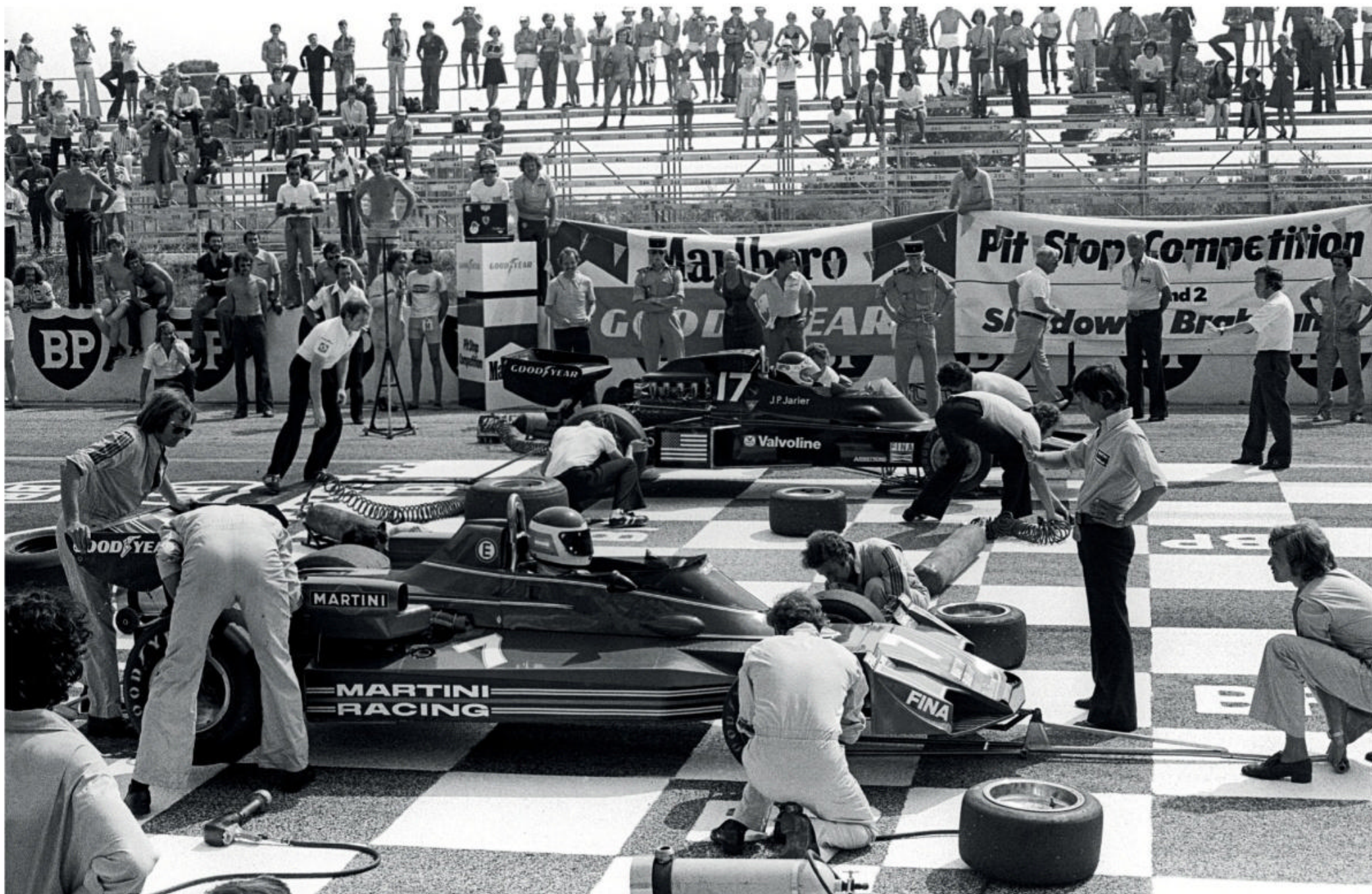




Today's pitstops are a blur of speed and minutely-choreographed teamwork, with mechanics undergoing intensive training and fitness work to enable them to perform at their peak. Back in 1983 you can see Brabham, having introduced the 'modern-day' pitstop a year earlier, had already moved its processes on, increased the number involved in the stops and wisely, added a team member with a fire extinguisher to the mix



In 1976 Marlboro and Goodyear instigated a series of pitstop challenges between F1 teams. The first round was at the Swedish GP at Anderstorp and this, round two, took place on Paul Ricard's main straight at the French GP. The prize for the winning team was apparently £250, and yes that is Bernie Ecclestone at the rear of the Carlos Reutemann's Brabham directing his team's efforts





▲ Collisions are quite rare, despite crowded pitlanes. One of the few times this has happened was during the 2010 Hungarian GP. Renault released Robert Kubica straight into the path of Adrian Sutil, who was attempting to enter the Force India pit. Sutil was forced to retire, Renault was fined \$50,000 for an unsafe release and Kubica given a 10s stop-go penalty

▼ A ban on refuelling for 2010 had already been announced when this happened at the 2009 Brazilian GP. McLaren's Heikki Kovalainen was released prematurely by his team with the fuel hose still attached, in an incident almost identical to the one suffered by Felipe Massa in Singapore the previous year. Kovalainen went on to finish the race in ninth





Mechanics are in the firing line when a driver comes into his pit box too hard and this is often the result. When Kazuki Nakajima made his first ever mid-race F1 pitstop, at the Brazilian GP in 2007, he slid into two of the Williams pitstop crew, knocking them over. Thankfully, the injuries suffered by both mechanics were relatively minor



Refuelling had been banned for the start of the 1984 season, only to be allowed again for 1994. Following on from Jos Verstappen's German GP fire in 1994, there was this mid-race blaze at Spa in 1995, involving the Jordan of Eddie Irvine. Irvine extracted himself unhurt and the fire was quickly extinguished by Jordan and Ligier mechanics



The perils of stopping to change tyres doesn't end once the new rubber has been fitted. McLaren's Lewis Hamilton was exiting the pits in the 2008 Canadian GP when ahead of him Kimi Räikkönen's Ferrari and Robert Kubica's BMW Sauber were held at the pitlane exit red light. Hamilton slid into the Ferrari, and was then hit by Nico Rosberg's Williams





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FINISHING STRAIGHT

RACE DEBRIEF

F1 WORLD CHAMPIONSHIP ROUND 1

THE BAHRAIN GP
IN 5 KEY MOMENTS

1 Ferrari is back in the winning business

Charles Leclerc delivered irrefutable proof that Ferrari has become a championship contender once more by leading an emphatic 1-2 from pole in the Bahrain GP. Team-mate Carlos Sainz looked less confident in the F1-75, particularly when running with full tanks, but Leclerc had Max Verstappen well beaten even before both Red Bulls broke.

F1 was quick to hail this race as a vindication of its new regulations. But the fact remains that the outcome was heavily influenced by tyre degradation and issues relating to the weight of the cars. Indubitably the cars can follow each other more closely through fast and medium-speed corners, but they are unwieldy in the slow stuff, and the need to manage brake temperatures as well as the tyres acts as a disincentive to stay close.

Leclerc aced the start, repelled Verstappen's dive into Turn 1, and by lap three Max was being instructed to 'lift and coast' into certain corners to manage his brakes. The higher ambient temperatures played a role, but the layout of the circuit combined with the car characteristics to make braking an issue. There's little opportunity for cooling between high-demand corners, while the cars are heavier and have less mechanical grip, requiring a different braking technique.

Although the Sakhir track is an outlier because of its abrasive surface, the weight of the new cars, combined with higher cornering speeds (because of the ground-effect aero) and lower mechanical grip (owing to the simplified suspension) will put high loads through the tyres at any circuit. The cars also have to run stiffly to manage the ground effect.

All these factors fed into Verstappen being unable to attack Leclerc throughout the opening stint. Max pitted at the end of lap 14 for more soft-compound tyres and, even though he was obeying instructions to go gently on the Pirellis on his out-lap, the offset in performance between



Joy for Leclerc and Sainz (right). Leclerc (above), had the race sewn up before Verstappen retired



PICTURES: STEVEN TEE; MARK SUTTON; CARL BINGHAM

his new tyres and Leclerc's worn-out ones almost enabled him to pull off an undercut when the Ferrari stopped a lap later.

Red Bull told Max he had one chance to try to pass before he would have to manage his brakes again. As it happened, he took two: diving past under braking into Turn 1, Max took the lead briefly as Leclerc strategically backed off to activate DRS then open it to whistle past into Turn 4. A lap later, Verstappen tried again but locked his right-front.

Thereafter he was again consigned to trailing after Leclerc, raging at having to nurse his tyres on the out-lap (despite going fastest in sector two after his second stop). The Ferrari was easier on its tyres, ultimately forcing Red Bull into a third stop to put Max back on softs for an attacking final stint.

The Safety Car on lap 46 closed up the field but, by being already halfway round the lap before the race was neutralised, Leclerc was able to make a third stop for softs without giving up the lead. While it looked like Verstappen might be able to challenge when the Safety Car pulled in at the end of lap 50, Max went right alongside Leclerc at the final corner, meaning a sharper angle and less traction on exit.

Leclerc duly raced clear as Max came under attack from Sainz, who shot by using DRS into Turn 11 on lap 54 – just as Verstappen's car expired...

2 Fuel issue compounds Red Bull's "worst nightmare"

Max Verstappen's title defence got off to a catastrophic start as Red Bull left Bahrain with zero points. Assisted by a new low-drag rear wing, the RB18 clearly has remarkable straight-line speed, but circumstances militated against Verstappen being able to deploy that performance consistently.

Once Leclerc secured pole position, Ferrari approached the race with a plan to cause maximum disruption to Verstappen. Now the stipulation that drivers must start the race with the tyres they used to progress to Q3 from Q2 has gone, Ferrari gave Leclerc his last set of brand new softs for his first stint. Sainz held his in reserve, as did Verstappen. The aim, according to Leclerc, was "to have a bit of a different strategy between our two cars, to hopefully put Max in a bit of a difficult situation".

It's possible the new-tyre advantage was decisive at the start, enabling Leclerc to scamper clear. Max was then instructed to manage brake temps and was also on his own: team-mate Sergio



This wasn't the way Max or Red Bull wanted to start the season (above). The team's woes deepened when Pérez (below) also retired

Pérez dropped behind Lewis Hamilton's Mercedes and Kevin Magnussen's Haas on the opening lap.

After failing to undercut Leclerc twice, Red Bull was forced by tyre degradation to bring Max in a third time at the end of lap 43. Red Bull admitted it underestimated the power of the undercut, and should have allowed Verstappen to push harder on his out-laps. Circumstances rendered this academic: Max's car bent a trackrod as it dropped off the jacks, giving him a peculiar steering feel.

Both RB18s failed within moments of each other, Verstappen's juddering to a halt after Sainz went by and Pérez's locking and looping at Turn 1 at the start of the penultimate lap. Fuel starvation was the issue, though there was plenty left in both tanks.

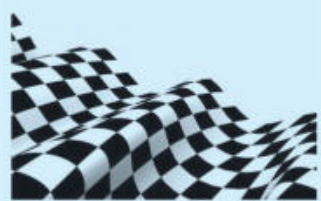
Team boss Christian Horner admitted the team had taken advantage of special FIA dispensation to inspect the fuel pump assembly on both cars in parc fermé. "I think that was a general concern rather than specific to Red Bull," he said. "We just



need to get the fuel system apart and understand, because we know the fuel was in there."

Several teams suffered vapour locks in testing, caused when fuel gets too hot and evaporates within the pump, damaging the mechanism. F1's new mandatory E10 fuel has a lower cavitation threshold (the point at which the fuel begins to bubble from the heat) and will be more prone to this.

"I can't remember the last time that [a double retirement] happened to us, but it's obviously your worst nightmare," said Horner. ▶



FINISHING STRAIGHT

RACE DEBRIEF

F1 WORLD CHAMPIONSHIP ROUND 1

3 Mercedes "test session" yields unexpected podium

Third and fourth places for Lewis Hamilton and George Russell provided succour for a Mercedes team hamstrung by the need to run a compromised setup on its W13. Jacking up the rear ride height has reduced the bouncing at speed but at a cost to downforce, engine performance and tyre use..

Having qualified fifth – and declared himself surprised to be that high on the grid – Hamilton snatched fourth on the opening lap as Pérez had to quell a moment of oversteer at Turn 2, but it was all Lewis could do to keep the leaders in sight during the opening stint.

Pérez breezed past on lap 10 and Hamilton was called in to take on a set of the unfancied hard tyres at the end of the following lap. From there he fell away from the leading group at a second or more per lap, but still had plenty of time in hand over the chasing pack. A swap to mediums at the end of lap 27 failed to provide a performance uplift.

Russell had a scrap on his hands after a tyre-prep blind alley for his final Q3 lap consigned him to ninth

on the grid. He gained two places on the opening lap at the expense of Valtteri Bottas and Fernando Alonso, then pressured Magnussen into a lock-up at Turn 1 at the start of the fifth lap, but a longer stint on the hards left George 13s behind Lewis.

The Safety Car then enabled both Mercedes to pit again for softs without losing position, and Red Bull's late double retirement elevated them from fifth and sixth to third and fourth. Nevertheless, they were over 40 seconds behind the leader before the race was neutralised.

"Fifth and sixth would have been the reflection of where we are," said team boss Toto Wolff. "I think we were competitive on the first few laps on the soft tyre and we were able to hold on, if not be faster, than some of the guys in front. But we had more deg. Nevertheless, it was a good, useful test for us. We tried the hard tyre, which obviously wasn't great. We lost a second a lap and also on the medium, we weren't really able to extract performance so there's some really good learning."

4 Magnussen shines in Ferrari 'B-team' resurgence

As Ferrari restored itself to the front of the pack, its closely aligned customer teams also experienced a competitive resurgence. How much of this can be attributed to the Ferrari engine – believed to now be the most powerful on the grid – and how much comes from car philosophies which are similar to the GP-winning F1-75? It's too early to tell, although the Alfa is thought to be one of the lightest cars on the grid, and one of the few to get close to the original minimum weight of 795kg.

Returnee Kevin Magnussen (in for the ousted Nikita Mazepin at Haas) easily had the most impressive race, passing Sergio Pérez's Red Bull on the first lap and then essaying a mostly tidy run to fifth, benefitting from the retirements of both RB18s. Team-mate Mick Schumacher had a more eventful outing, spinning at Turn 6 on the opening lap after being clipped by the Alpine of Esteban Ocon, who was handed a five-second penalty.

Not stopping during the Safety Car period enabled Schumacher to gain a foothold in the



Hamilton and Russell (above) battled to third for Lewis (left and top) and fourth for Russell

PICTURES: STEVEN TEE; MARK SUTTON; ZAK MAUGER; STEVE ETHERINGTON; ANDY HONE



Haas at last had something to cheer about: Kevin Magnussen's stellar run to fifth

top 10 but it was merely temporary, and he slipped back to 11th as Yuki Tsunoda, Alonso and Zhou Guanyu used their fresher rubber to get by.

Both Alfas made a mess of the start, Bottas wheel-spinning off the line through the first three gears – the clutch apparently vibrates heavily “50% of the time” during start procedures – and dropping eight places, while Zhou's car went into anti-stall at Turn 1. Having fought back into contention, they were running outside the points in the final third of the race when the Safety Car played into their hands.

Both Alpines and Tsunoda's AlphaTauri had pitted just before the deployment, enabling Bottas (who stopped the lap before the Safety Car) to

pit and emerge eighth, which later became sixth. Zhou was 13th on track but successfully attacked Schumacher and then benefitted from Red Bull's woe to claim a point on his debut.

5 Brake issues keep McLaren on back foot

Lando Norris says he is “expecting pain” in the races to come after McLaren endured a thoroughly disappointing season opener. Norris came home 15th after starting 13th, while Daniel Ricciardo salvaged 14th from 18th on the grid but both drivers spent lengthy periods propping up the order.

McLaren has had to engineer considerable compromise into its setup to relieve the porpoising issue, which is uncomfortable for drivers and damaging to tyres and powertrain. It has also had severe brake cooling issues, a problem it has carried since the Bahrain test – where the issues prevented it from completing a race distance.

Norris and Ricciardo were the only drivers to start on medium rather than soft tyres and this strategy didn't work. Both lost ground early on and then found their MCL36s lacked performance and grip to challenge the soft runners as those tyres went off.

“We went into this race not having done any race simulation before with this car, not doing any any high-fuel running,” said team principal Andreas Seidl. “So there were a lot of unknowns for us. That's why it was simply important to finish this race with both cars.”

McLaren had a race to forget, spending a huge chunk of it at the tail of the field



RESULTS ROUND 1

SAKHIR / 20.03.22 / 57 LAPS



1st	Charles Leclerc Ferrari	1h37m33.584s
2nd	Carlos Sainz Ferrari	+5.598s
3rd	Lewis Hamilton Mercedes	+9.675s
4th	George Russell Mercedes	+11.211s
5th	Kevin Magnussen Haas	+14.754s
6th	Valtteri Bottas Alfa Romeo	+16.119s
7th	Esteban Ocon Alpine	+19.423s
8th	Yuki Tsunoda AlphaTauri	+20.386s
9th	Fernando Alonso Alpine	+22.390s
10th	Zhou Guanyu Alfa Romeo	+23.064s
11th	Mick Schumacher Haas	+32.574s
12th	Lance Stroll Aston Martin	+45.873s
13th	Alex Albon Williams	+53.932s
14th	Daniel Ricciardo McLaren	+54.975s
15th	Lando Norris McLaren	+56.335s
16th	Nicholas Latifi Williams	+61.795s
17th	Nico Hülkenberg Aston Martin	+63.829s
18th	Sergio Pérez Red Bull	56 laps/fuel pump
19th	Max Verstappen Red Bull	54 laps/fuel pump

Retirements

Pierre Gasly AlphaTauri 44 laps - engine

Fastest lap

Charles Leclerc 1m34.570s on lap 51

TYRE COMPOUNDS USED



CLIMATE

Dry/
night

AIR TEMP

25°C

TRACK TEMP

27°C

DRIVERS' STANDINGS

1 Leclerc	26pts	11 Schumacher	0pts
2 Sainz	18pts	12 Stroll	0pts
3 Hamilton	15pts	13 Albon	0pts
4 Russell	12pts	14 Ricciardo	0pts
5 Magnussen	10pts	15 Norris	0pts
6 Bottas	8pts	16 Latifi	0pts
7 Ocon	6pts	17 Hülkenberg	0pts
8 Tsunoda	4pts	18 Pérez	0pts
9 Alonso	2pts	19 Verstappen	0pts
10 Zhou	1pt	20 Gasly	0pts





FINISHING STRAIGHT

RACE DEBRIEF

F1 WORLD CHAMPIONSHIP ROUND 2

THE SAUDI ARABIAN GP
IN 5 KEY MOMENTS

Verstappen bounced back from his Bahrain retirement to get the better of Leclerc

1 Verstappen hits back with first win of 2022

Max Verstappen was angry after Bahrain – angry with Red Bull for giving away 18 easy points to unreliability and a possible victory to poor strategy. One week later he was much happier, having “kickstarted” his world championship defence with victory in the Saudi Arabian GP.

Red Bull was again locked in a tight battle with Ferrari, only this time the RB18’s brakes worked fine, the suspension survived the pits and no vacuum found its way into the fuel pump. Charles Leclerc topped the practice sessions, Carlos Sainz was

fastest in Q1, Q2 and after the first Q3 runs, but it was Red Bull that took pole, only not the one we all expected. Sergio Pérez produced the lap of his life when it mattered, while Max languished in fourth.

Rather like in Bahrain, Verstappen was puzzled as to why his tyre-preparation tactics – two slow laps – hadn’t worked for the crucial final part of the session. “It was working really well in Q1 and Q2,” he said. “Just in Q3 [it] didn’t work at all. I put that first tyre set on and I had no grip, it felt like I was driving on a different tyre. Every corner, I was just

losing one or two tenths.”

Christian Horner confirmed Red Bull “came with a decision of running lower downforce” for the Jeddah Corniche circuit, which remains a dubious high-speed dice with danger despite modifications to improve sightlines by shifting barriers around. Red Bull’s strategy required Verstappen to carry a grip deficit through the first half of each lap in exchange for advantageous top speed. It paid off, but Max needed a slice of fortune to get the job done.

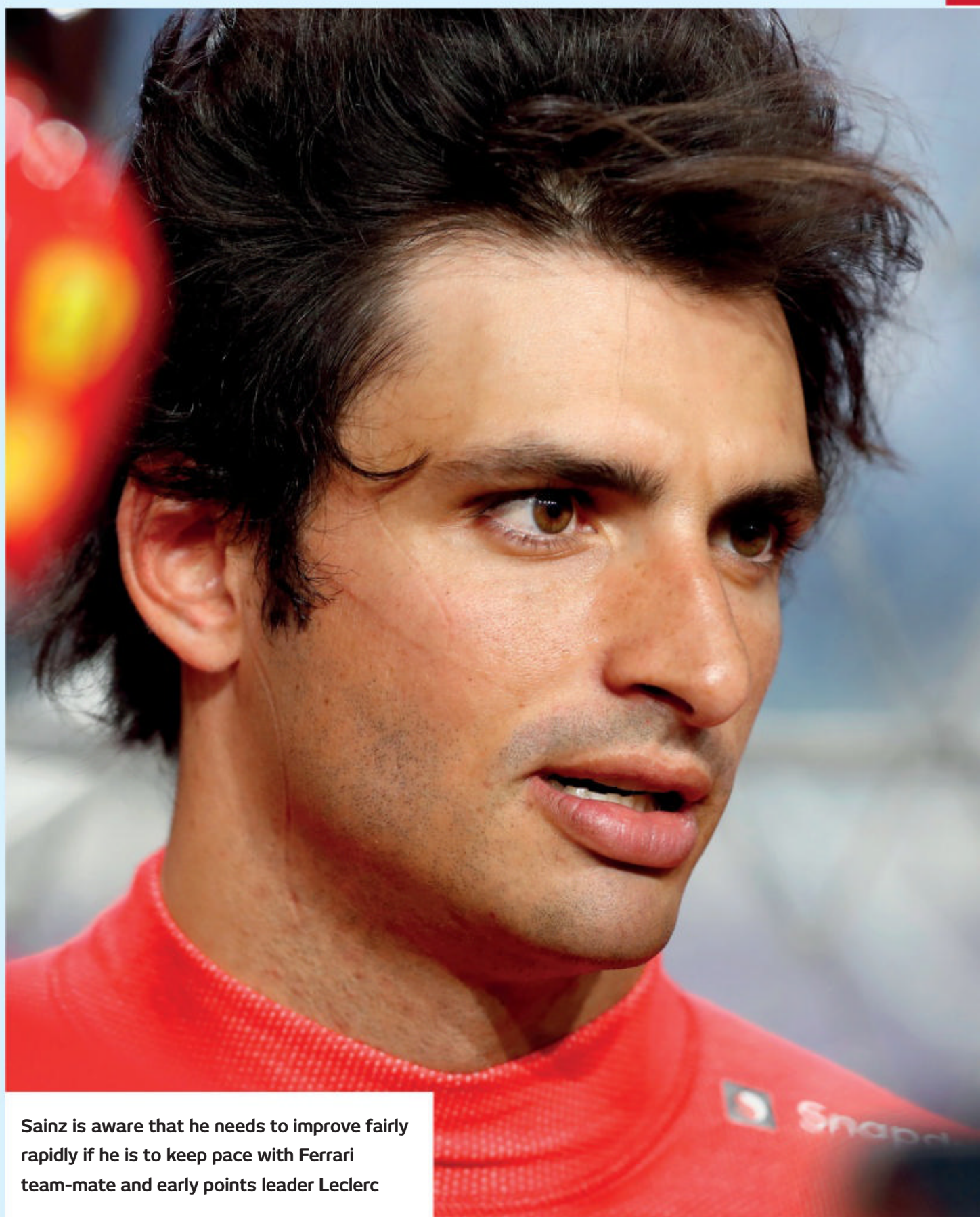
After Sainz got boxed in behind a slow-starting

Leclerc into the first chicane, Max went inside at Turn 1 then drove cleanly around Sainz's outside through Turn 2 to claim third. The Safety Car period called for Nicholas Latifi's second crash of the weekend completely screwed Pérez and allowed Leclerc, Sainz and Verstappen to all gain time and positions 'for free' in the pits.

After the restart on lap 21 of 50, Verstappen had a "much better feeling" on the hard-compound tyre compared with the mediums the majority started on, so he set off after Leclerc – trying to apply pressure while attempting to keep his rubber alive on that lower-downforce setup. The gap never strayed much beyond 1.5 seconds, but Leclerc crucially kept Verstappen out of DRS range until the Virtual Safety Car (for multiple breakdowns) intervened and set up a 10-lap shootout.

From that point on the Red Bull stayed within a second of the Ferrari and Verstappen began attacking. Leclerc used what Verstappen called "smart tricks" to defend: deliberately conceding the lead before the final corner to activate DRS then using it to repass into the first corner on the next lap. Max quickly cottoned on, and with five laps to go took the lead for good. Leclerc's plans for counterattack were dashed by yellow flags at Turn 1, flown after Lance Stroll and Alex Albon collided and littered the circuit with debris.

Mattia Binotto conceded Ferrari's higher downforce setup choice in service of better tyre life might have been a mistake given Red Bull's performance – but points leader Leclerc was still upbeat in defeat: "Every race should be like this."



Sainz is aware that he needs to improve fairly rapidly if he is to keep pace with Ferrari team-mate and early points leader Leclerc

2 Sainz has work to do to get on the pace

It's a measure of Carlos Sainz's ambition that he's so disappointed to be eight points off the championship lead after his third consecutive podium finish in Formula 1. The results are a natural reflection of Ferrari's turnaround in form, but Sainz senses this is a big moment for the team and that's why he's irritated to have endured a downturn in personal performance compared with Leclerc.

Sainz was ahead of Leclerc in four out of the final five qualifying sessions of last season and outscored him 48-43 over the final six races to edge ahead in the standings. The pattern of the first two races this season has Leclerc clearly ahead throughout practice, Sainz on stronger form in qualifying (but still ultimately behind), then unable to live with Leclerc's race pace.

After Bahrain, Sainz admitted he was giving away three to four tenths in driving compared to Leclerc in the race. In Jeddah, the deficit was again consistently around three tenths. It seems Sainz can find a way to nearly match Leclerc's driving over a single lap on new tyres in qualifying – he's been within two tenths both times in Q3 so far – but cannot replicate that on used rubber.

Sainz was encouraged by some setup experiments Ferrari conducted on Friday in Saudi Arabia, but he will know even finishing third here was a fortunate outcome given the Safety Car misfortune that befell Pérez.

"One hundred days ago, I was here with a super high level of confidence with last year's car, I was super weak in quali and the race, and I knew exactly

what to expect from the car and what the car was giving me," Sainz said.

"One hundred days later, I come back and in corners where last year I was very strong, this year I seem to be struggling quite a bit more and I'm not driving the car the way that it should be driven. Together with the car is not giving me exactly a feeling that I need for my driving: these two combinations of things is what I'm working on. And I think I've made a step forward.

"But I must say that has also given me the awareness of the two or three type[s] of corner that last year I was feeling so confident and comfortable that this year I'm not, and it has given me good data points to work on and become stronger for the future." ▶



FINISHING STRAIGHT

RACE DEBRIEF

F1 WORLD CHAMPIONSHIP ROUND 2



Pérez was controlling the race after claiming his first ever F1 pole, until that fateful pitstop

3 Pérez rues Safety Car intervention after maiden pole

Sergio Pérez probably deserved to win the Saudi Arabian GP. Certainly, his performance merited a podium finish but the timing of the first Safety Car intervention completely undid what was arguably his strongest weekend since joining Red Bull.

Although Pérez regularly pushed Nico Hülkenberg hard during their time as Force India team-mates, Pérez never gained a reputation for being a particularly strong qualifier. Last season, Pérez only genuinely outqualified Verstappen once (at Imola) and often struggled even to lap faster than Pierre Gasly's AlphaTauri.

Pérez was a bit up and down in Saudi Arabia – but his final practice performance was decent, and he squeaked ahead of Verstappen (who ran wide during his second lap) in Q2. Nevertheless, pole looked to be a contest between the Ferrari drivers and Verstappen. Sainz set provisional pole on the first Q3 runs, before Leclerc eclipsed him. Then Pérez came out of nowhere to steal the top spot by a quarter of a tenth of a second.

"I could do 1000 laps and I don't think I could beat that lap – it was unbelievable," he said. "I think there is no other circuit like this. If I can get pole here, I can get pole anywhere in the world. This is definitely the most demanding place to get the perfect lap – the level of risk, the level of precision you've got to have around this place is just tremendous."

It certainly was a tremendous performance, and Pérez maintained control of the race until making that unfortunately timed pitstop on lap 15, then having to conceded third to Sainz under Safety Car protocol after they arrived at the pit exit together following Sainz's subsequent pitstop.

"Checo had good pace at the beginning of the stint, he was just starting to get some tyre deg," explained Christian Horner. "And we could see Charles coming within the undercut [range]. You heard them do the opposite, so we decided to box that lap to try and maintain track position. Good stop, and then a Safety Car and that gives the other cars a free stop. So desperately unlucky for Checo."

4 Russell salvages fifth as Mercedes endures more pain

It's such a shame for George Russell that his dream opportunity is finally here yet it's being undermined by a car that simply doesn't work. Although he should have qualified fifth here – losing out to Esteban Ocon's Alpine by less than half a tenth – Russell finished clearly best of the rest behind Ferrari and Red Bull in the race.

Russell and Lewis Hamilton diverged slightly on set-up after final practice. Toto Wolff said Hamilton's crew "went a bit bolder" as Mercedes shaved its lower-drag rear wing. Lewis said this made his W13 "undriveable" such was the lack of rear grip and he qualified only 16th.

Hamilton rose to sixth by completing the longest first stint of anyone on hard tyres but lost out by not stopping before the pitlane was closed to clear the broken cars of Fernando Alonso and Daniel Ricciardo. Still, even with a perfect run Hamilton would have probably struggled to finish higher than eighth. "I just want to go home," he said after a weekend blighted by off-track politics.

Russell battled hard just to finish fifth as Mercedes' porpoising struggles continued



Russell pushed “flat out” in chase of the leading cars but finished more than 30s adrift even with Safety Car interventions. “We’re a second behind them generally,” he said. “Everybody knows what we need to improve on. If we solve the porpoising, that would cure 99% of our issues.”

“These cars perform best at low ride height and we can’t get anywhere close to where our rivals are running. There’s so many factors at play between the mechanical stiffness of the car and then the stiffness of the floors, the design of the floors, tyre pressures. Engine mode as well – the faster you go the worse it gets, so it makes it harder for qualifying because we turn the engines up, maximum power, go quicker down the straight which causes more downforce and causes more porpoising.”

5 Alpine and Ocon top frenetic “go-kart” race

Esteban Ocon battled hard to be best of the midfield runners in Saudi Arabia. After narrowly

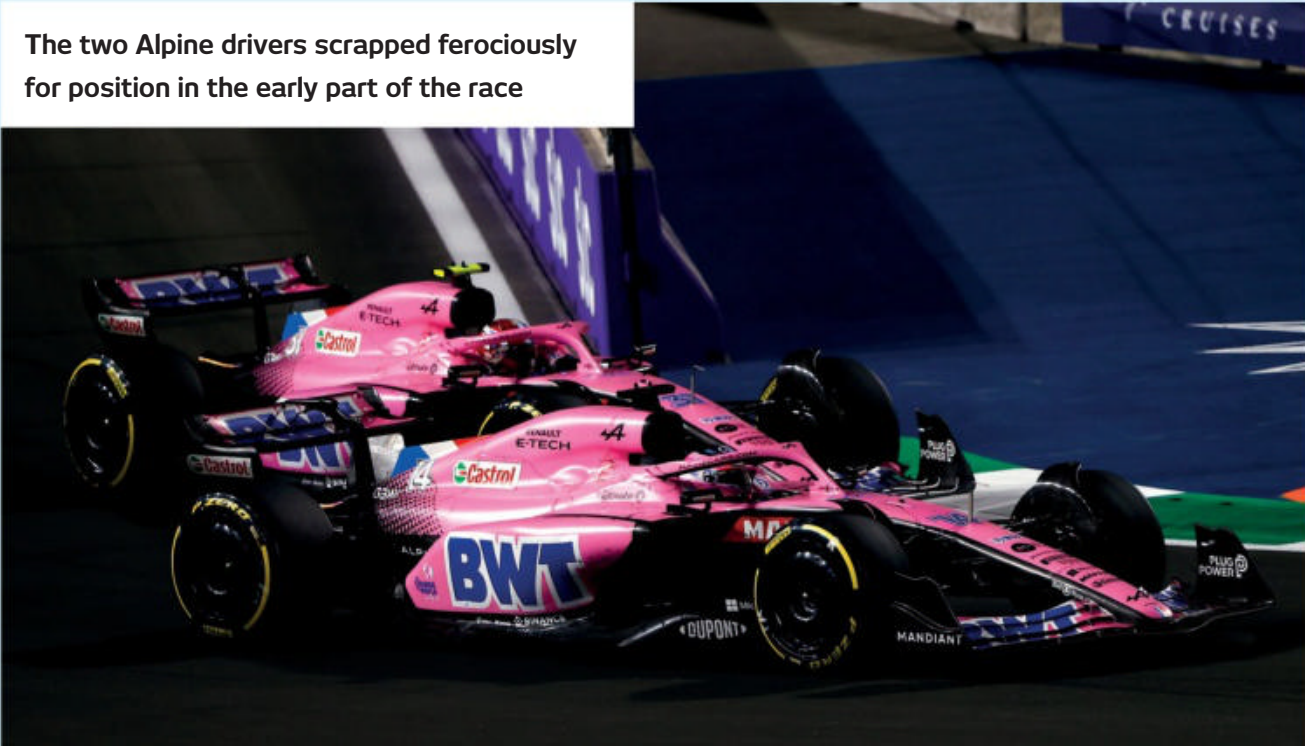
outqualifying George Russell’s faster Mercedes, Ocon was a fixture in a contest which variously included his Alpine team-mate Fernando Alonso, Valtteri Bottas, Kevin Magnussen and Lando Norris.

Attrition played its part. Alonso’s car expired around the same time Bottas’s Alfa Romeo overheated, while Magnussen suffered throughout the weekend with a weak neck after missing nearly all of Friday practice – without which he reckoned fifth on the grid was possible in a Haas that looked a bit bouncier than it was in Bahrain.

Ocon admitted he came within “one more degree” of slide angle to enduring an identical shunt to the one that carried Mick Schumacher to a precautionary hospital visit on Saturday. McLaren looked more competitive than in Bahrain – both cars came close to making Q3 – so Ocon had to defend hard to keep Norris behind at the finish. The early battling with Alonso also made Otmar Szafnauer shake his head, but Ocon clearly relished the fight.

“It’s a completely different philosophy now racing with these cars, it’s pretty much like a go kart race,” he said. “It’s good fun.”

The two Alpine drivers scrapped ferociously for position in the early part of the race



RESULTS ROUND 2

JEDDAH CORNICHE / 27.03.22 / 50 LAPS








1st	Max Verstappen	Red Bull	1h24m19.293s
2nd	Charles Leclerc	Ferrari	+0.549s
3rd	Carlos Sainz	Ferrari	+8.097s
4th	Sergio Pérez	Red Bull	+10.800s
5th	George Russell	Mercedes	+32.732s
6th	Esteban Ocon	Alpine	+56.017s
7th	Lando Norris	McLaren	+56.124s
8th	Pierre Gasly	AlphaTauri	+62.946s
9th	Kevin Magnussen	Haas	+64.308s
10th	Lewis Hamilton	Mercedes	+73.948s
11th	Zhou Guanyu	Alfa Romeo	+82.215s
12th	Nico Hülkenberg	Aston Martin	+91.742s
13th	Lance Stroll	Aston Martin	+1 lap
14th	Alex Albon	Williams	47 laps - collision

Retirements			
Valtteri Bottas	Alfa Romeo	36 laps	- overheating
Fernando Alonso	Alpine	35 laps	- loss of power
Daniel Ricciardo	McLaren	35 laps	- mechanical
Nicholas Latifi	Williams	14 laps	- accident
Yuki Tsunoda	AlphaTauri	DNS	- driveline
Mick Schumacher	Haas	DNS	- qualifying accident

Fastest lap
Charles Leclerc 1m31.364s on lap 48

TYRE COMPOUNDS USED



Hard (C2) Medium (C3) Soft (C4) Inter Wet

CLIMATE	AIR TEMP	TRACK TEMP
Dry/night 	26°C	34°C

DRIVERS' STANDINGS

1	Leclerc	45pts	11	Tsunoda	4pts
2	Sainz	33pts	12	Gasly	4pts
3	Verstappen	25pts	13	Alonso	2pts
4	Russell	22pts	14	Zhou	1pt
5	Hamilton	16pts	15	Schumacher	0pts
6	Ocon	14pts	16	Stroll	0pts
7	Pérez	12pts	17	Hülkenberg	0pts
8	Magnussen	12pts	18	Albon	0pts
9	Bottas	8pts	19	Ricciardo	0pts
10	Norris	6pts	20	Latifi	0pts



FINISHING STRAIGHT

RACE PREVIEW

F1 WORLD CHAMPIONSHIP ROUND 3

AUSTRALIAN GP

8-10 April 2022

Albert Park



PICTURE: JERRY ANDRE. ILLUSTRATION: ALAN ELDRIIDGE



RACE DATA

Circuit name Albert Park
First grand prix 1996
Number of laps 58
Circuit length 3.295 miles
Race distance 191.118 miles
Lap record 1m24.125s
 Michael Schumacher (2004)
F1 races held 24
Winners from pole 9
Pirelli tyre compounds
 C2, C3, C5

CAR PERFORMANCE

Downforce level High
Cooling requirement Medium
Full throttle 61%
Top speed 203mph
Average speed 128mph

TIMETABLE (UK TIME)

Friday 8 April
Practice 1 04:00-05:00
Practice 2 07:00-08:00
Saturday 9 April
Practice 3 04:00-05:00
Qualifying 07:00-08:00
Sunday 10 April
Race 06.00
Live coverage Sky Sports F1
Highlights Channel 4

THE MAIN EVENT

Back after a COVID-induced hiatus, the Australian GP venue has had a makeover during its time out. The entire layout has been resurfaced, and seven corners modified to speed up the lap and create more overtaking opportunities.

Another (relative) novelty for this weekend will be a split in Pirelli's tyre allocation. As it did in 2019 it's bringing the C2 and C3 compounds for hard and medium, but the soft tyre will be the C5 rather than the C4. The top eight finishers back then started on softs, most doing relatively short stints before swapping to mediums. Just two outliers in this group used hards in the race: Nico Hülkenberg, who raced from 11th to seventh, and Charles Leclerc, who started and finished fifth but made his softs last 28 laps before going on to the hards. Chances are the softs won't last that long this time around...

2019 RACE RECAP

Valtteri Bottas delivered a vivid message to his critics both during the race and on the slow-down lap, when he delivered his now-famous "To whom it may concern" radio message. Bottas claimed his fourth F1 victory from second on the grid, taking the lead from his polesitting Mercedes team-mate Lewis Hamilton at Turn 1 on lap 1.

Bottas was far enough up the road that it was Hamilton who had to stop early, responding to third-placed Sebastian Vettel pitting for new mediums on lap 14, and this compromised the world champion's race. Neither did it work for Vettel, who slipped back and was passed for third place by Red Bull's Max Verstappen.

KEY CORNER: TURN 1 We're cautiously optimistic about the remodelling elsewhere but expect Turn 1 to remain a crucial corner: it's a fiddly right-left at the end of a straight, and easy to get very wrong while trying to overtake.



THE PAST FIVE WINNERS HERE...



2019

Valtteri
Bottas
Mercedes



2018

Sebastian
Vettel
Ferrari



2017

Sebastian
Vettel
Ferrari



2016

Nico
Rosberg
Mercedes

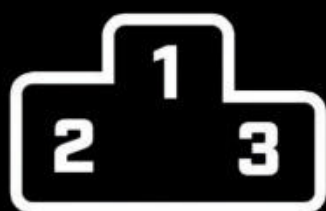


2015

Lewis
Hamilton
Mercedes

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FINISHING STRAIGHT

RACE PREVIEW

F1 WORLD CHAMPIONSHIP ROUND 4

EMILIA ROMAGNA GP

22-24 April 2022

Autodromo Enzo e Dino Ferrari



PICTURE: ANDY HONE. ILLUSTRATION: ALAN ELDREDGE



RACE DATA

Circuit name

Autodromo Enzo e Dino Ferrari

First grand prix 1980

Number of laps 563

Circuit length 3.05 miles

Race distance 192.03 miles

Lap record 1m15.484s

Lewis Hamilton (2020)

F1 races held 29

Winners from pole 9

Pirelli tyre compounds

TBC

CAR PERFORMANCE

Downforce level Medium

Cooling requirement Medium

Full throttle 70%

Top speed 207mph

Average speed 129mph

TIMETABLE (UK TIME)

Friday 22 April

Practice 1 12:30-13:30

Qualifying 16:00-17:00

Sprint grid 17:00-18:00

Saturday 23 April

Practice 2 11:30-12:00

Sprint 15:30

Sunday 24 April

Race 14:00

Live coverage Sky Sports F1

Highlights Channel 4

THE MAIN EVENT

Drafted in as a calendar 'filler' during the pandemic, Imola has struck a deal to remain until 2025. That's a key move since it maintains the presence of classic venues on a roster which in previous years has tended to follow the money, often into territories which know little and care less about F1. Also, the sums involved are relatively modest – \$25million a year, we understand, with a discount if COVID-19 forces the organisers to limit crowd numbers. It's an indicator of F1's commercial health and the appetite of spectators to watch live sport – although government money is involved, naturally.

The circuit itself is defiantly old school, narrow and technical and tricky to overtake on. And yet it's a hit with drivers and a venue the teams love to visit.

2021 RACE RECAP

Max Verstappen definitively laid down a marker in his world championship challenge, forcing polesitter Lewis Hamilton to yield to his Red Bull at the first corner and dominating proceedings on a greasy track surface. Hamilton salvaged second place despite running off the track mid-race, as he was saved by the red flag caused by (then) team-mate Valtteri Bottas colliding with Lewis's future team-mate George Russell.

In another breakthrough performance, McLaren's Lando Norris secured a podium finish at the expense of local hero Charles Leclerc's Ferrari – Lando held second for several laps before succumbing to pressure from the recovering Hamilton.

KEY CORNER: TURN 14/15 Now renamed Curva Gresini in honour of motorcycle racer Fausto Gresini, this is a fiddly chicane approached over a crest. This increases the difficulty, as does the track-limit monitoring at the exit kerb. Push too hard here in quali and your lap could be struck off.



THE PAST FIVE WINNERS HERE...



2021

Max
Verstappen
Red Bull

2020

Lewis
Hamilton
Mercedes

2006

Michael
Schumacher
Ferrari

2005

Fernando
Alonso
Renault

2004

Michael
Schumacher
Ferrari

F1 Racing Fine Art Prints



Damon Hill by John Batchelor

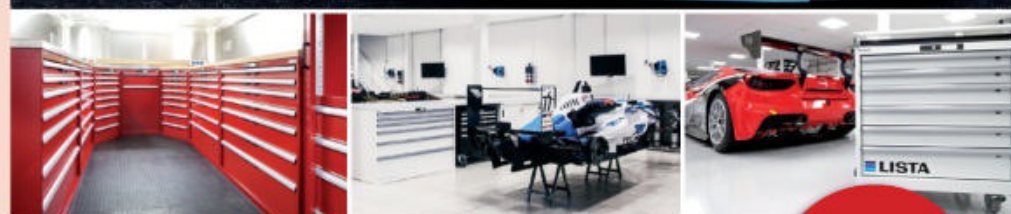
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FINISHING STRAIGHT

GEAR UP

F1 UPGRADES

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NETFLIX *DRIVE TO SURVIVE* SEASON 4

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netflix.com

Soften the blow of yet another Netflix price hike (the second in 18 months) with the latest series of the acclaimed behind-the-scenes F1 show. By now it's probably time to gently back out of calling *Drive To Survive* a 'documentary' since the producers' frequently cavalier approach to the *actualité* is even more pronounced in this run. Detail-minded *GP Racing* readers will find this triggering and so, too, does Max Verstappen, who refused to engage with Netflix throughout the season.

That means Christian Horner, never camera shy, acts as Verstappen's proxy throughout a series dominated by the championship fight narrative. There's less of the supporting cast this time around, although the episode focusing on Daniel Ricciardo's travails is supremely watchable, as is the blood-on-the-carpet behind the scenes at Haas, which will leave you in no doubt as to why Nikita Mazepin was shown the door as soon as an excuse presented itself.



THE FIVES McLAREN EDITION

Price £1,349

klipsch.com



Klipsch, McLaren's official headphone and portable audio partner, has launched a co-branded special edition of its The Fives powered speakers. Rated at four stars by *GP Racing's* former sister publication *What Hi-Fi* and described as "a pleasing listen", The Fives can be used as output for a hi-fi system, as desktop speakers for a PC, or even as an alternative to a soundbar for a TV. They offer pretty much every

connection possible, from analogue to HDMI ARC and Bluetooth, and include a phono pre-amp so you can connect a turntable directly to them.

The McLaren special edition speakers are hand-finished in matt black with the tweeters, control panel and cables in McLaren's papaya racing colours. The stability pads are shaped to resemble the treads of an intermediate tyre, and the fascias feature laser-etched McLaren logos.

YESTERDAY'S FUTURE: CONCEPT CARS OF THE 1960S

Author Richard Heseltine

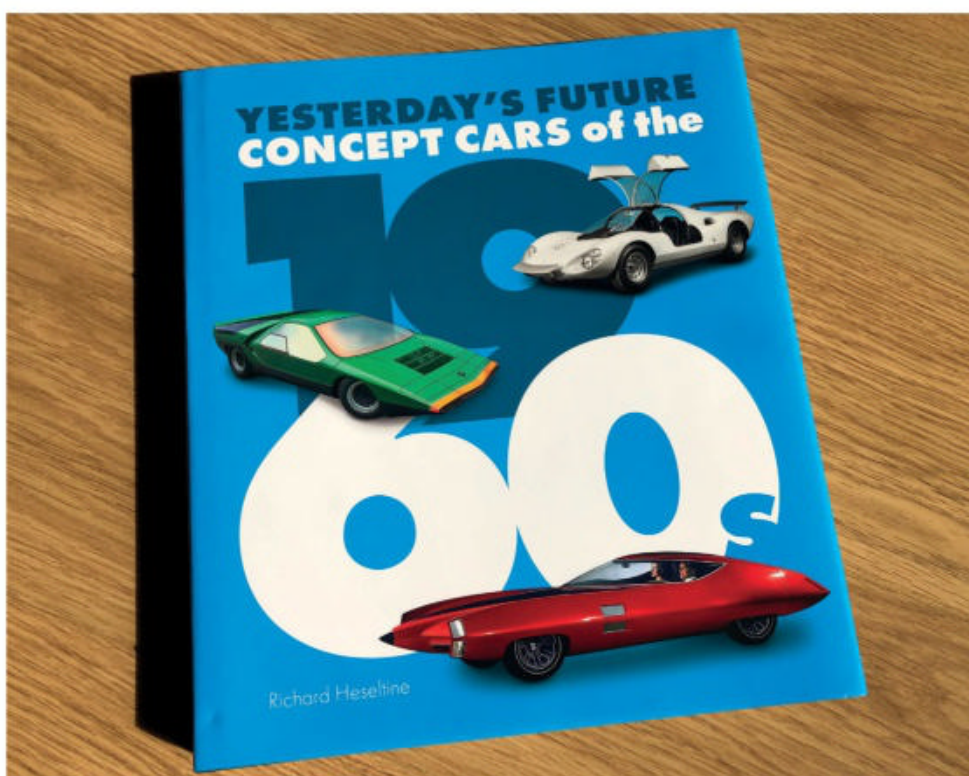
Price £45

porterpress.co.uk

As well as offering designers an opportunity to let rip with one-off creations which don't have to cater to mainstream tastes, be cheap to mass-produce, or even be strictly road-legal, concept cars offer a fascinating snapshot of their era. The 1960s was a time of profound social and economic change and the concept cars of the time reveal this tension between utilitarian practicality and flamboyance. Author Richard Heseltine's entertaining romp through almost 200 concept vehicles

is suitably irreverent, juxtaposing flights of fancy such as the Gyro-X – a gyroscopically stabilised, Mini Cooper-engined tandem two-seater – with cars such as the Lamborghini 3500GTZ, which presaged genuine production models.

Some designs remain influential today. The Lamborghini Marzal, driven by Prince Rainier and Princess Grace around the Monte Carlo circuit ahead of the 1967 Monaco GP, featured hexagonal motifs you'll still find in Lambo supercars.



CODE ZERO CAMO COLLECTION

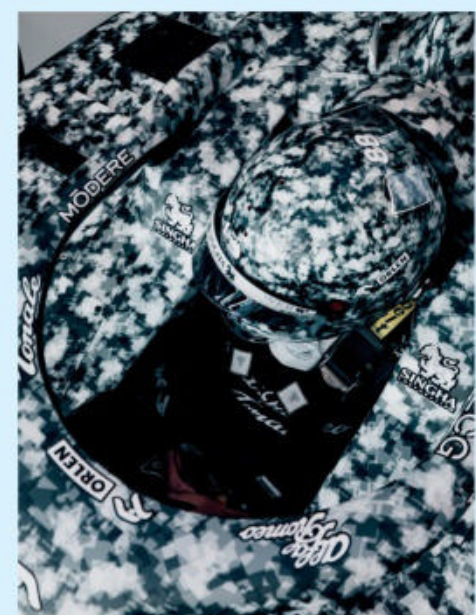
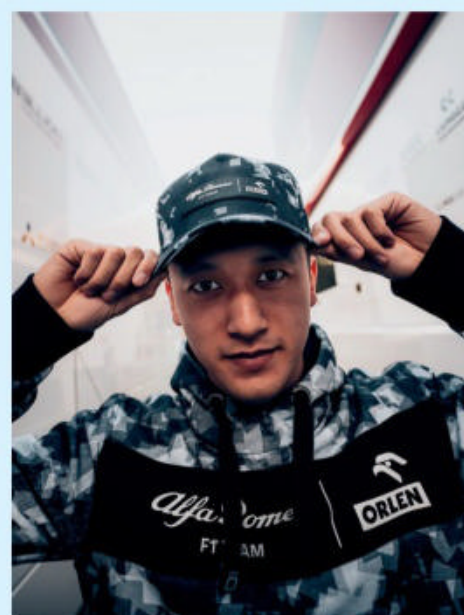
Price €40 (cap), €125 (hoodie)

codezeroracing.com

Alfa Romeo's procedurally generated camouflage livery caught the eye during the pre-season test at Barcelona, when it was deployed to obscure many of the subtler details of the team's new C42 car from prying camera lenses. Alfa's teamwear partner Code Zero took the opportunity to reproduce the camo pattern for a limited-edition

range of merchandise.

Each item in the collection includes a QR code which enables fans to access "an immersive, engaging and interactive experience of the new C42 car, anytime and everywhere". We're rather taken with the way Valtteri Bottas resembles Kirk Douglas in *The Heroes of Telemark* when dressed in the camo cap and hoodie...





FINISHING STRAIGHT

THE FINAL LAP

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MUSINGS WITH
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PICTURES  **motorsport
IMAGES**

NO HOLDING BERGER BACK ON KRACK

Gerhard Berger, rather like his much-missed countryman Niki Lauda, is hard-wired with a direct connection from mouth to brain and keeps a well-stocked larder of forthright opinions which he is inclined to share. This makes him fascinating casual company, irresistible to journalists – and, so the word goes, an occasionally difficult personality with which to work.

It is in this context we should probably view his typically unfiltered comments about recently installed Aston Martin team principal Mike Krack. During an interview with *GP Racing's* German-based sister publication *Motorsport-Total*, Berger said that during Krack's tenure at BMW he "didn't impress me". There was no way motor racing's fourth estate could leave it at that. Holding court at the Bahrain GP, Berger was invited to elucidate and gleefully obliged.

"When I watched what was done in DTM, I just don't see the way forward for Aston Martin with him," Gerhard continued. "In all the years

I've been there now, [BMW has] never been consistently competitive. They'd be on the starting grid in a good position one day and they didn't know why they're there. And the next day they'd be at the end of the grid and didn't know why.

"When you see this over a longer period, you question the people behind it, and he was leading it, the project. And this is DTM! DTM is great. But F1 is a different league. Here, you need to be the best of the best in the world. I don't see this."

Unequivocal indeed. And yet it must be said that Berger is lugging some baggage when it comes to matters BMW. The company has long had a peculiarly binary relationship with motor

In Bahrain Berger was typically forthright on the subject of former BMW man Mike Krack's move to Aston Martin



racing, seemingly all in or all out, as Gerhard well knows, having been BMW's motorsport director from 1998 to 2003. He 'retired' when his contract wasn't renewed, and the word in the paddock at the time was that the arrangement in which he was in effect co-boss with Mario Theissen did not appeal to either man, since each coveted

sole authority. Theissen clearly won that battle and duly led BMW into F1 as a constructor, pushing for the purchase of Sauber in 2005 when the relationship with Williams broke down.

Not long after that Berger reappeared as a 50% co-investor in Scuderia Toro Rosso with Red Bull magnate Dietrich Mateschitz, whose carbonated energy drink Gerhard had introduced to F1 as a sponsor back in 1989. The arrangement didn't last long – Berger sold out in 2008 – but there was a brief period early in 2007, when the

first Adrian Newey Red Bull chassis were regularly self-destructing on track, that Austrian sources were adamant Christian Horner's firing was imminent, and that Berger was being teed up to replace him.

Is there a touch of the frustrated team boss lingering in Gerhard's sentiments? Perhaps. But, fine racing driver as he was, and successful businessman as he is, I'm not convinced his skill set aligns with managing a racing organisation. During his brief tenure as FIA single-seater commissioner he brought many good ideas to the table, including the introduction of Formula 4, but his attempt to resolve the mess that was F3 – while well-intentioned – was less successful and resulted in the death of the British and German series.

The most successful organisations in F1 are headed by team builders, not one-man wrecking balls. Diplomacy and the ability to encase the proverbial clunking fist in the equally proverbial velvet glove are essential. Since slipping his feet under the desk at Aston Martin, Krack has made all the right noises in terms of his approach to taking the team forward.

Has anyone asked him what he thinks of Gerhard Berger?

GP Racing has a podcast!

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